SEQUENCE LISTING

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XU, NANFIE

<120> DIFFERENTIALLY-EXPRESSED CONIFER cDNAs, AND THEIR USE IN IMPROVING SOMATIC EMBRYOGENESIS

<130> 7648.0023-00

<140>
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<150> 60/239,250
<151> 2000-10-11

<150> 60/260,882
<151> 2001-01-12

<160> 339

<170> PatentIn Ver. 2.1

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tgtatctgct cacttcggcg tatatatgta atatgttgct tcttcagaga gatgaacttc 180
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aacatgatta tcataattcc attaattcat ggcgttttct ttgccaaaaa aaaaaaa 177

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tttctctgtg ctaaaaaaaa aaaa 204

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<211> 156
<212> DNA
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tgaagttgca aggttttggc aaaaaaaaaa aaaaaa 156

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caagataggg taataattct ctttctgatc ttccaggtca ctctaggtgc aagaagagag 300
catagtcaag gaactattaa accaataact ttctcttttc tgatcctcca gttcactcta 360
ggtacaagcg gtc 373

<210> 36
<211> 485
<212> DNA
<213> Pinus taeda

<400> 36
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gcgctactat gacattttat aggatgtctg agtgtaaaat aatggtactg gttgttgcaa 120
agaatctgat gtttggatgt atggaactat aaatagatgt tattttctga tccagaaggc 180
tttccttacc aactgatttc atcttcagaa actaaaagct cttgaacttg tgtagatggg 240
gcttggtcat tgtagtttaa atgcattatg tagtggcaaa aaaaaaaagt tatagcctac 300
gtttcaaatg gatttgctcg acaatcaaat gaattacaat tgaatattca tgtataccca 360
aattttaaat gtagaatgac atcatcaatg tagacaaaca ccactgtgct tgtccttgat 420
atcctctttc accatataat tggtggctta ctcaaagtca ctatctgatg caactacaag 480
cggtc 485

<210> 37
<211> 500
<212> DNA
<213> Pinus taeda

<400> 37
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attggtgtag tgcggttcaa aaggcgctcc agattcgtct ggaacgaatc ttcatacgct 120
gaacaattag acatcttgta cgcaagagaa ttacgatcgg ccatataaaa accccaaaga 180
gaagaaagtg tttcgaaatt ctcccagaaa acagtcttat gccaccgatt tgtcttttca 240
acatgcattt gcaatgaagt ctttggattc ttactgtgag tgctgatcag caacggattt 300
tcgatctgta tagctctgcc gattcctggt taaagcagct aagagttagg catccagatt 360
ttgagttttt tgcatctcac aatgtttgaa tacatttcaa atccattgtt ggagtaacct 420
aacaacaact gtactcttct tcctatttct gaagccctct gccagtttaa ggcagagaac 480
tgagttatct acaagcggtc 500

<210> 38
<211> 398
<212> DNA
<213> Pinus taeda

<400> 38
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tacaaccctg cagtggtcgc agtagagaga atcggagcaa cgaacgtttt cccgaatata 120
tggagcggga ggaagagttt tcttgctgat gatccaatcg gagtcgaact gccaccgctg 180
gatgaagggc ggcgaggaaa tcttgggggg cagaggcccg tcggcgtagg aaataagaaa 240
cgatttgata tggaacgaaa gggcccgtcc agggttcgat ccccggcagg gcagccagcc 300
ccgaactaaa caaaacaata agaacaaaca gcaaagtaaa agaaagcacc agaagaaaca 360
gcagcagacg aagagtaagg agctgcccac aagcggtc 398

<210> 39
<211> 179
<212> DNA
<213> Pinus taeda

<400> 39
gaccgcttgt aatccacagc attttcaata acttcctgag gtgacatcca cctccactca 60
gaaaactcgg ctgcatctgt cccatcacca gctagattga tctcactctc gtctcctcta 120
aattttagga ggaaccattt ctgtgcttga cctttccatt cgcctcccca caagcggtc 179

<210> 40
<211> 221
<212> DNA
<213> Pinus taeda

<400> 40
gaccgcttgt atataatgtg aagacacaat aaaattttgt ccaacaaagc aaccaaacga 60
ccaaaaattt agctgtgaca tcaaaaagct caacccctac aatgaatgta accttaatct 120
agaaaattga tccatgatct ccactgaatt ttctcgttca tcctgaagaa tgagaaactt 180
aaatgtaccc gattccctca accaagcccc cacaagcggt c 221

<210> 41
<211> 473
<212> DNA
<213> Pinus taeda

<400> 41
gaccgcttgt aatccacagc attttcaata acttcctgag gtgacatcca cctccactca 60
gaaaactcgg ctgcatctgt cccatcacca gctagattga tctcactctc gtctcctcta 120
aattttagga ggaacctgta attggtaggg gcttgtcata aatgatcaag acgacccgca 180
tcgtgatgcc aagcttagtc tttctactta ctgtctatgt aatggtcacg ggcccttctt 240
atgtttatgt ctctttgaaa tggacgattt ttttgtttta ggtattcagt ttctgaagct 300
gttttggtag taaactgggc tcaatcattt ctgttgcttg aactttccat tcgcctcccc 360
cacaagcgtc agccgaattc tgcagatatc catcacctgg gggggccgct cgaacatgca 420
tctagaaggc caatccccta tatgaattct attaaatccc tggcctcgtt tta 473

<210> 42
<211> 339
<212> DNA
<213> Pinus taeda

<400> 42
ggtgcgatcc agaaaactat catctctcac tgctcgtgaa caaaatgctg gttcatagcc 60
atcactaagg ctaaggtact atccagccaa actgatctca aataataatt tcataagctt 120
aaataaatag tccagccagt agatggagcc aaaaagccat agaagcttca aatacttgtg 180
gtatcaatct ctcctctgtt aagggaggta tcagatcaga agcactaatc aaatgcatac 240
ataaatgcag tagactgcaa taaaacaaaa tctgcagata gcaacagagc gcttaacgaa 300
cggaaaagag tttaacttga tctatcacag gatcgcacc 339

<210> 43
<211> 303
<212> DNA
<213> Pinus taeda

<400> 43
ggtgcgatcc acaatagttc gtacgagcga cgtctatctg gttaatcaga acacatatct 60
aatttggaaa tttgtgggca taaagctcca cagtgtaggt gggctaatcc catgaaacat 120
tactcttcaa aacatcatac aactgaggtg gaaattgcaa aagattatta ctggatgctg 180
atctgggact aaggtggtgg ccattggtaa tgttgtgttt cagaaatata tcttcatgat 240
gatcagtagt tgcatctggt tggaagaatg ataaattctg gtaatttgtc ttgggatcgc 300
acc 303

<210> 44
<211> 274
<212> DNA
<213> Pinus taeda

<400> 44
ggtgcgatcc aactagaaga atataaagaa aaattacgga ctaccagaaa acatcacatc 60
acagtgtatt gcattctcaa taatcagaac tgtactggct aatatcgctg tgcctgtcgt 120
ttcattttcc tgtcatccgc atagggcccc tcattttccc tatcttgcag aaatccaaga 180
aatgcaagaa aaccaaaaag gaagaaaccc ccagaggaag agtccgaaga ggatatgggt 240
gtcagtcttt ttgactagat tggaggatcg cacc 274

<210> 45
<211> 269
<212> DNA
<213> Pinus taeda

<400> 45
ggtgcgatcc cagaacattt cagacagatt aaaacaagat ctagtcaatt cctacaaggg 60
aaacttttgt caagatccgg atccagattt tcctcaagta aaactaatct cattaaatcc 120
aagccaatct ctagcaaaat tcaaacactt tttattaaat ccaagccata tatctggcaa 180
attcaccgaa atatgtacaa tcgcagcgca ttgcttggct tgcgacagaa accatattcg 240
cacgtcttca taaggctttg gatcgcacc 269

<210> 46
<211> 240
<212> DNA
<213> Pinus taeda

<400> 46
ggtgcgatcc aacaacacag cttcacactt actccatcct ctggaactct catcagattg 60
tgttcttcgt agaccaagtt cctgtgagag tccacaggca cactgaggct acaagcgatg 120
tgttccctaa agaacagggg atgtacatgt tttccagcat ttggaatgca gacgactggg 180
caaccagggg tgggcttggg aagacaaact ggactgccgc tccattcagc ggatcgcacc 240

<210> 47
<211> 242
<212> DNA
<213> Pinus taeda

<400> 47
ggtgcgatcc caacaccaag tgagaatgaa gcaatataaa tcagcagact cactaaagcc 60
aaaacagtga aaaatgtttc atattgggaa tctgctccag aatgagcctt caagtaaaat 120
gacaaactaa cgaggaagag acatacggcc atgcccccag atgagaccat gaggaggaga 180
cgtcgtccgg ctttatccat gagccataca gcaactgcag tcatgatgac ctggatcgca 240
cc 242

<210> 48
<211> 213
<212> DNA
<213> Pinus taeda

<400> 48
ggtgcgatcc aggaaatcat caaaggggag cacatccaat gtgcaaaata agatcatcat 60

gcagcaagat ctctgaaata taagctctgt aagaccaatc tgaagtgctg atgatcaata 120
tgaactgaaa catcatgcca caatgggctg gtacttgtgc aaaattctct ggcatgtgat 180
gagaatcaca tggttacctc tttggatcgc acc 213

<210> 49
<211> 235
<212> DNA
<213> Pinus taeda

<400> 49
ggtgcgatcc aaagagcctt cttgcagaca atccgtgaaa acatggctat acaataaatt 60
cccagtttgg aattctaaat aaaactgttc aatatttgaa ggcctctgat atcacagaga 120
ctgatattag aatggaagca tgtagcaacc ctagaagctt tcgcataaag ataccagatt 180
aattcataag aaggatctct cgttcaccag tcacatatca cagtcggatc gcacc 235

<210> 50
<211> 216
<212> DNA
<213> Pinus taeda

<400> 50
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gggcagaggg atgtgccaag ctgaagaaga taccggggtt ggagcaagcc acaaaacttc 120
gagagttaga tgttagtggg tgccctcagt tagatgagct gccaagtatg gaattattga 180
catctttgga cggcttgtgg gcaaagggat cgcacc 216

<210> 51
<211> 462
<212> DNA
<213> Pinus taeda

<400> 51
ggtgcgatcc acatagtttg aatgcaagga aattgcacat acttcgtggg gaatttcgat 60
ggcaaatcag tccaggtaaa tgacttctca acataggtcc aaaactcttt catagaccag 120
atcttgaccg tgttgtccat gccacagctt gcaatacgat atacatctga aggatgaaaa 180
tctacactga gaacttcatt gcgatgtccc ccagctccag caaatatcaa aatgcatatt 240
ccagtttgaa cattccagag tcgtacagat tcatctttgc tagcagataa aataagggaa 300
ggtttcagtt gcttgggtcc ttatttcatt cacagaactc catggccaac gaaactctta 360
tggacttttc atttgcacat ccattctcga attatacatt gtgaccgcag ccactaataa 420
tggggaacat cactcgcctg cccacttatg tgttaaagaa tc 462

<210> 52
<211> 246
<212> DNA
<213> Pinus taeda

<400> 52
ggtgcgatcc cctccattta ccatggtata ctgttccaaa ggttccagag cctagctctt 60
tcaattcttc aaggtcagca ttctttatta tctggaaact tcgctagctg tgtctataat 120
cacgaaaccc agacggggaa ctaataggcg atgaagtttc tcttatccat aaccgttgca 180
aagatcttac acggagtttt ctcttcttct gcgtggcttt tctttcccgt attctcggat 240
cgcacc 246

<210> 53
<211> 527
<212> DNA
<213> Pinus taeda

<400> 53
ggtgcgatcc atacatgcga gggcgcatga gagactacca caaatcctac atacctccat 60
tcacccctgg atcggttata caaggatttg gggtggctaa agtgatactc tcaaatcacc 120
cagacttcag agagggtgac tttgtatctg gtactatagg atgggaagag tacagcataa 180
taccaaaagg gagtaactta agaaagatca aatatacgga cgtaccactt tcatattttg 240
tgggtgtttt aagaatgccc gggtttactg cttatgctgg attctttgaa gtttgctctc 300
ctaaaaaggg ggagcatgtt tttgtctctg ccgcttcagg agctgttggc cagcttgttg 360
ggcactttgc aaagttgatg ggttgctatg ttgttaggga gcgcgggtaa caaacagaag 420
gctgatctgc tgaaacataa aatgggcttt gatgatgatc tccaccataa cgaggagcat 480
gacttcgatg tggctttaaa aaggcatttt ccagatggga ttgcacc 527

<210> 54
<211> 273
<212> DNA
<213> Pinus taeda

<400> 54
ggtgcgatcg aactgaatga atgacgttgc caagctatgt ttgggaatta aaacttgaat 60
gccgttattc tctcctttt ccaaaagggc cttttctgcc agaaaacctt aaatttctga 120
ctggtttcca agtccaattt ttaaaatatg gattggttta ccattgaagg caccaccatg 180
ctctgaaagt tatggactgc acttgcccca gtgctatatt tagtccagat agcgcttgtg 240
tctctaaatg catctccctg ctcggatatc acc 273

<210> 55
<211> 220
<212> DNA
<213> Pinus taeda

<400> 55
ggtgcgatcc gaacagaggg agcagatttt gcccttgcaa gtattcacaa cattagagaa 60
gccctgccag agatatggga ggaagaagat gcagagaaca ccaaaaatgt tgtgggatca 120
agaggagcgg atgcaactat agaaactgtt gtcacggcat aagccatcgc ctcattgaat 180
gagggaatgg aggactagac aaatcccttt ggatcgcacc 220

<210> 56
<211> 483
<212> DNA
<213> Pinus taeda

<400> 56
ggtgcgatcc gattgggcag ctgcagcctt gggaagcttt agaatcaaat tgcactcatc 60
ctccaggagg tattgagaag tcaatttctc aaggtctaca gtgacagaag gaaccatctt 120
gacaatctta tcaggtttcc tgctctggtt aaacacttca actttgacag gacgagagaa 180
tgtgactaat tcatcttctt catcagactc tacatcttcc tgtttcaaga aacaaagata 240
ctgatcatca ctagggcaag aattgatgat tttgatatct ctggagaagc cagtgtttac 300
attggtttgc ttcatggcca ccagtctatg gcataaagct ttcccgaaag ggtacttggc 360
agatttaaca gagcccaacg ttatatttaa ggcccatctc tttgctctca aaatttttct 420
tgcatcctct ggagaatata aaacccttg gtgtctcttt ccacaaacac cttctcattg 480
atc 483

<210> 57
<211> 472
<212> DNA
<213> Pinus taeda

<400> 57
ggtgcgatcc aactgagaag ggtgtttggt ggaaagatga caccaagtgg gttctatatt 60
ctccagagga tgcaagaaaa attttgagag aaagaagatg ggcccttaaa tataacgtgg 120
ggttctgtta aatctgccaa gtacccttca ggaaagttta tgccatagac ttggtggcca 180
tgaagcaaac caatgtaaac actggttctc cagagatatc aaaatcatca attcttgccc 240
tagtgatgat caggaagatg tagagtctga tgaagaagat gaattagtca cattctctcg 300
tcctgtcaaa gttgaagtgc ttaaccagag caggaaacct gataagattg tcaagatggt 360
tccttctgtc actgtagacc ttgagaaatt gacttctcaa tacctcctgg aggatgagtg 420
caatttgatt ctaaagcttc ccaaggctgc agctgcccaa tcggatcgca cc 472

<210> 58
<211> 246
<212> DNA
<213> Pinus taeda

<400> 58
ggtgcgatcc atgtagtgcc aacttacgag atcactaact ttaaaactat catgcaattg 60
gccaatagaa gcgacacttg ctgtgccaaa gtatcgatag gctactcccg atggctcaat 120
catatatagt tggggcccat ctctatcata acctccaagg ataactccag atccaaaagg 180
ccttaaccac caatatagtg tgcacaaatg cacataactg gcaacacgtt cacaaagttc 240
cttaat 246

<210> 59
<211> 255
<212> DNA
<213> Pinus taeda

<400> 59
ggtgcgatcc catgggatag ttgcaagaca cacaaatttg ttgtgaaaga agagagacac 60
gcacagacaa ccatatgatc ttttttttt ttttttttt ttttttttt ttttttttag 120
caaaattcaa acacttttta ttaaatccaa gccatatatc tggcaaattc accgaaatat 180
gtacaatcgc agcgcattgc ttggcttgcg acagaaacca tattcgcacg tcttcataag 240
gctttggatc gcacc 255

<210> 60
<211> 368
<212> DNA
<213> Pinus taeda

<400> 60
ggtgcgatcc cactgtagtt gtccttgttg agcatagttc aagctgttct gattccacca 60
gttagtggcc caacactgcg aggtgctgcc atttccattc cattcacaga cgtcagtgtt 120
gaaattcata taggaagcca caaagggtga ggaagaccaa tctattttca ctcgcccccc 180
ttgagttgcc cactggtctc cgctccatat gctagagaat actctcattg cctgctcatt 240
cggataggga acgcctatgt tttcattgtt tgcaaatact ctgattggca aaccatcaac 300
gaaaatcgca atttgctggg ggttccagag aatagagtaa ttgtggaaat ctgctgtagg 360
atcgcacc 368

<210> 61
<211> 354
<212> DNA
<213> Pinus taeda

<400> 61
ggtgcgatcc cacactccta accctattat atgtctcccg tccatggagt catagaagga 60
gtacgataat atgcccttca gccaagcgaa gtatgacttt agtatggcca ggcagcagta 120
tgaaagcaca tcttgtttct tccaggtcgg catgtatagt ctccggaggc taacaatgtc 180
acccaaagct aattgcgcaa acggaactcc tctgctgatc tcccgggaac ttaggcggaa 240
ccaccctgaa tccactattc tcaccgcgca tttcatccct ttggtgaacg ccgctgcctc 300
tggtagatac agagctggct tgtctccact ggaacccccct ttccggatcg cacc 354

<210> 62
<211> 364
<212> DNA
<213> Pinus taeda

<400> 62
ggtgcgatcc aaactgtggt tatcggtgga gagattaagc aatttattgg agtagcaagt 60
acgctgaatt aagggggtcc atcttcaagc aaaggttcct ttggatgact atgtgttctg 120
gaagtgttta tggatcaatc atctcataaa ttttggtaat atataacaga agattatggc 180
atccagttag gatggtagtt tcattgaggt atagtaaaaa ctacactagt cttgtgttgc 240
cacccacttt tcagagaagt caggaggtct ctttgtgaat cattgataac tttatgagtg 300
ggtacctaaa tgaaatattt gcatcttgag tatatactca attgatctta cttgtggatc 360
gcac 364

<210> 63
<211> 381
<212> DNA
<213> Pinus taeda

<400> 63
cttggtaccg agctcggatc cactagtaac ggccgccagt gtgctggaat ttacggctgc 60
gagaagacga cagaacacct atcataactt gaattctgat gcaaatcgga atttgccaaa 120
aacttggacg gaaatataat aggcaatatc atccccgcaa gtaacaaaaa aattgcatga 180
aagctcaaat cctatgtgct ttacaccttg actgcatact ttctcattgg aaaatacatc 240
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atagcacgag tcttcttggg acgcaaatca agaggcaggt acttcttttt tttgtatgct 360
tctcttaatg cggatcgcac c 381

<210> 64
<211> 382
<212> DNA
<213> Pinus taeda

<400> 64
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cttgaagaat atgagcgccg atgtgaacag atccacaacc tggagttaaa attggaggaa 120
gacagagcag tgctgaatag gagcttggca gaaataaata gtcttaagga atcctggctt 180
cccacattga ggagtttggt taccagaatt aatgaaactt tcagccacaa ctttcaaggg 240
atggctgttg ctggagaagt tacactagat gaacatggca tggatttga caagttatgg 300
tattctaata aaagtcaagt tcaggcaaac tggacagttg caggtattga attgctcatc 360
atcagtctgg agggatcgca cc 382

<210> 65
<211> 367
<212> DNA
<213> Pinus taeda

<400> 65
ggtgcgatcc gagggaagcg atgtagtctt gccccaagcg acgaccatga tcccttattc 60
ttgggcaata tgtgcaagac gtggacaaat gaagcggtta aagggaagct tatggactat 120
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cgtggttttg catttatagc attttctacg cacatggatg cgatgaatgc atacaaacgc 240
cttcagaggc cagatgttat ttttggtgct gatcgaactg cgaatgtggc atttgcagag 300
ccactgcgtg agcctgacga agagatcatg gcccaggtta agtcagtgtt gttgatggga 360
tcgcacc 367

<210> 66
<211> 298
<212> DNA
<213> Pinus taeda

<400> 66
ggtgcgatcc agtcctgaaa atgtacttta ccatttgtat aatgatgtaa aaatcttggc 60
catagtctgg tcaaaccaga ctgtattgtt gctaaagtta tggaaattct ggccatattt 120
ttgtctaacc agactgtatt gttgccaaag ttatgggaat tccggctata tttttgtctt 180
cgaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaga tcatagggtt gtctgtgcgt 240
gtctctcttc ttacacaaca aatttgtgtg ttttgcaact atcccatggg atcgcacc 298

<210> 67
<211> 425
<212> DNA
<213> Pinus taeda

<400> 67
ggtgcgatcc gctggaaggt gggcagctgg acatctggga attataagtc gaatgtcaat 60
tgctgggcca tctgggggat gagcaatagc atcggaggcc aagttcttct gcagccgggc 120
accaaatgcc atgtggaggt ctgaatctta gtttggaggt cgaagtttca atccccttgt 180
gtttactctg tttctggttt tatttgaata atttgagcaa tttaatgtgg gtccttagtg 240
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gagattcaat tctatcagaa ttccatggtg gtttaaattc ccttgtactg ttgatctacg 360
tcgctttgta tatcagtgtg tgttaagatt ttctcagaat ccacagcttt gttatggatc 420
gcacc 425

<210> 68
<211> 335
<212> DNA
<213> Pinus taeda

<400> 68
ggtgcgatcc aagcacttac gactcccaac aaggacggga aactctaaaa tcggaaaaat 60
atcatatact gaggcatcaa ctttgttgat aaaactttaa acaagaacaa tatttgcagc 120
atattagccc acatgccata atgacaaaca aatatgagaa cactgcctac aggtttgcca 180
aaagcatggc cctcactttt gccctgaggt catcaggagc ttctgaggct cgagaaggag 240
aaaaagattg tgtcacttca ggagctgagg cctccacatc ttttaatgat ttcgcagcag 300
gcctctcttt aatgttttct ttagaggatc gcacc 335

<210> 69
<211> 711
<212> DNA
<213> Pinus taeda

<400> 69
ggtgcgatcc aaggtacgag cgaacaagtt tcttcagcaa gccacctgga actttccatg 60
agtccaaaac aagttgaaga aggcttcttt ggctactttt aagatgctga agtgattgtg 120
ctcgcctctt gcacagttca accgcaataa cattgggttt tacaaaaccg attacctgtt 180
taacctgctg tgcactcttt ttcgaaacat gacaagttcc aacaagataa acttcggccc 240
cattctcgcc attccgcaaa taaaccacgc tctcatcttc tgttatcgaa ctcgagtgca 300
tgccacgacg ctcaattgca ggattccaac cccggacttg cgaatggtgc aaagcgatgc 360
ccgttcgtct cagcgatact gctaaagatc ggcagacccg aaccagtttg atgcttccat 420
tgccttaaac atccagagtt ttccttcgac cttaaaccct aacaagatta ctgatttctg 480
gtccggatgt tcactgtctg ttatacttct cacaaatctg tcacactcct gataatcttc 540
ggtattgaac ttcattgaat tgaattttcc ttctcattgg aattcaattg taccttgtaa 600
atgtctggat cctacactat accaatattt acaggtctga gtattttgcc tgtagtataa 660
ttatctttcc ttcggtctcg tgtttccgta ttattcgtgt aggatcgcac c 711

<210> 70
<211> 622
<212> DNA
<213> Pinus taeda

<400> 70
ggtgcgatcc cgggggggagg ttgatgttct gagagaatca atgaagggat ttcagctgag 60
cttgcctttt tgaagacgga atgcgaacaa ccagtcattt gcaatagcga gaattctctt 120
aagccactgc ctgctgggga ggcgagttct gattccggtg attgcatcac tcaacggcag 180
cagcagcggc agaaccttta gtttcccatg acaggtctct ctgtacaagt atcttcctgt 240
tatgatctaa ttccgggttg ttcgattatc gtgatgtctc ctgtattgac atattagcag 300
aatattacca tgatacgatg ttaagtggca tggtttatgc cctgcatgtt atgttatgga 360
ggaggtgagg catgtggcgc tcatgggagg gcccacatgg tccatggacg tcttattaaa 420
cgcatagtcg tgaatgaaaa tagttcaata cattcaaaat tccaacacaa tttcattaca 480
atggaagtga cttcgacttg aatgttcatt gaagcatttg catgcacaaa caaagtatac 540
tagattagaa gaaaattgca aaaaaggaca ttgtgccctt cttagtgaat atataaagat 600
gttcttcatg ctggatcgca cc 622

<210> 71
<211> 471
<212> DNA
<213> Pinus taeda

<400> 71
ggtgcgatcc caatagccaa tattgcctcc aagatagcct agactgcctt ttgcatagtt 60
ctagaagcca gtcacccaac ctcccaaaag aaattgcgca atctttccca tcagtttccc 120
gggtatgtgt tctgtcattc cccgaatttt ctttggtttt cactaataga tttctttcca 180
tgcacattgc ttgtctccag atcttttagg tgttcatcca tctcttagta gtactagatc 240
gatggcttcc aagagaacag gatcatatga cactgttgga aatgtagctg gagcagcagt 300
tgagcaagtg tcctctagtc tatctatcta tgaaagatac acattgtttc tagacatgga 360
tatcaaattg aaattgccag aagtccatga aacatttgcc gccttttgaa gaaaggctcc 420
aaactgtcag ggttcgttga acatcacatg ttctcgctgt ctgatccccc c 471

<210> 72
<211> 418

<212> DNA
<213> Pinus taeda

<400> 72
ggtgcgatcc tcagggtaat ggcctggctg aatcaagtaa caagaatctt ataaccatta 60
tctaagaaga tagtaggaga taacaagcgg tcttgggaca acaaaatcaa gtgcgctttg 120
tgggcagata ggataactaa aaagaaagcc actggtaaaa gtccctttga acttgtctat 180
ggcatggatt tgacattaca tgcccatctt aaattactag cttaccaact ccttcaacat 240
ttttctagtg ataaaggtgt tgtccaaaac atggttgatc aaattgtgca gttggatgaa 300
atccgcagga aagatttgga tagtgcaaaa atcagtctac cattaagaaa atctttgaca 360
aatcttctcg gtctagatat ttacaggttg gagatatggt tttactatgg attccacc 418

<210> 73
<211> 416
<212> DNA
<213> Pinus taeda

<400> 73
ggtgcgatcc tgcaggctta gatagtttcg gcgctcctct gaaagaagca cgagtaggtg 60
tctccacatt aggttggcct gatcccttgc ctgcacttgc agcttgtctt acaacatctc 120
ctatgctttg atccaggctt ttcactgaca taacttcagg ggcttccttc tcccagggcc 180
gtgctgccat ccagcgttct agccagctcc atccccaatt tggcttgttt gggtcaattt 240
ccatcagcat aggatgagct gctcctcgtg tgcttttcaa tgactgatga gaatatgcgt 300
tatgccaatg ccctttctcg cttcatggct gcttcttgct tgctttgcaa actagcctca 360
atttcctctt tggattgcaa ctgtcatcca atcctttgct tccatactgg atccac 416

<210> 74
<211> 346
<212> DNA
<213> Pinus taeda

<400> 74
ggtgcgatcc caaatgaaca ttcaacattc gatcatgtca agcgctaaat gccttggcag 60
cttaaaagct agactccgca agtgaccctt ctgacttagt acacatatta agactcatca 120
agggtccaat tccatgaaaa gaaattttaa aacggttaca tattcacaag aacagcacga 180
gatttcccag atagtcaacc accaacttgc cctatcagcc caaatattac tcattccatg 240
ttaaaaatag caaatttcca gatagaatgt cgaaagagat cttcatgcac catatatgga 300
ctcttaaaac cagccaaaat ctatactgcc atgcttggat cgcacc 346

<210> 75
<211> 346
<212> DNA
<213> Pinus taeda

<400> 75
ggtgcgatcc tggagagaga agcaaaaagc ctaccatcta aatctacatt ctaaatcaga 60
tatctttact gtgaaaggaa ttgaatgctg cttcagatat cctacaagaa ttaagaagaa 120
aagaatgatc aactccaaat caggcagatg gctcagaatt tcccgcagct tcattttcga 180
cggcctccac aacaccaacc tcggcaggac gtattactct gccatgaagt gtatagccag 240
gcttcaaaac cacagccaca ctgccaggct gcttactagc atcttgaact tgagatactg 300
ccatgttgca tatgaggatc aaactcttca tttattggat cgcacc 346

<210> 76
<211> 286

<212> DNA
<213> Pinus taeda

<400> 76
ggtgcgatcc ccagaggtta ttttgggttc aaagtattct acaccagttg acatgtggtc 60
atttgcttgc ataatttttg aactggctac aggtgatatg ttatttgatc ctcagagtgc 120
agaaggttat gaccgcgatg aggaccacct tgccctgatg atggagcttc ttggaaaaat 180
acctcgtaag atcgccttag gtgggagcta ttcacgggaa ctttttgaca ggcatgggga 240
tttaaagcac attagacggc ttcggtattg gcccttggat cgcacc 286

<210> 77
<211> 395
<212> DNA
<213> Pinus taeda

<400> 77
ggtgcgatcc taaactgtat gtctccacaa ttgtcttcaa tatagaagca gctacgcccc 60
tcctaagtca tcataagtta aaaacttcat ctttccaata caattaaact atctagctta 120
tcagtttgga atagagatac aaaattacag atagattagc gaaactgtgc cacaaaacct 180
cttcaaaatt agaagcatga ttgtctacaa ctccacttca aaaaggagct gaaccagtcc 240
ttcgaagggt gtgctttggt tgtggtggag gtacagaagg cagcaatttc tccaagaact 300
gctgtttttt tagcctctca ttctcctctt taagctgcat cacttcattc tctagctcat 360
ttgtgtatgc ctgctttctt gccctggatc gcacc 395

<210> 78
<211> 308
<212> DNA
<213> Pinus taeda

<400> 78
ggtgcgatcc gagtgatggc acaaagaaaa gcaatgatag aaaacaaaga acaggtagct 60
cagaaggttc agcaacttag agagtcaact tcgagttaag gagggcggga gcaattggca 120
gattcttcca aatttgtcaa gatctcttgg catgagatga ccttatagga tgttaaggag 180
caagaggatt ctaggaataa tgccaaggat aataagacta aaaggatgct tcaagaccag 240
gtggcaagga aggcttctaa ttcaaaggga gttagcaacg gcaacagatg caattctagg 300
atcgcacc 308

<210> 79
<211> 307
<212> DNA
<213> Pinus taeda

<400> 79
ggtgcgatcc tagaattgca tctgttgccg ttgctactcc ctttgaatta gaagccttcc 60
ttgccacctg gtcttgaagc atccttttag tcttattatc cttggcatta ttcctagaat 120
cctcttgctc cttaacatcc tataaggtca tctcatgcca agagatcttg acaaatttgg 180
aagaatctgc caattgctcc cgccctcctt aactcgaagt tgactctcta agttgctgaa 240
ccttctgagc tacctgttct ttgttttcta tcattgcttt tctttgtgcc atcactcgga 300
tcgcacc 307

<210> 80
<211> 521
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (391)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (428)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (433)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (443)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (471)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (494)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (497)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (512)
<223> a, t, c, g, other or unknown

<400> 80
atctagatca tcgatcttgt ccaaatttta actagtgaat agttttaaaa aaaagcaact 60
agcagaagag aacctaacca ctgacaaatt gcaaatactc tagaacacta ttcatcattt 120
tttgcgattc acgctggacc cacaagaacc ccttgagctg aactttcttt tcgttctccc 180
tccttttgga tcgcaccatc tagaccatcg atcttgtcca aattttaact agtgaatagt 240
tttaaaaaaa agcaactagc agaagagaac taaccactga caaattgcaa atactctaga 300
acactattca tcatttttg cgattcacgc tggaccacaa gaactcttga gctgaatttc 360
ttttcgtctc ctccttttgg attggacatc naatcctgca gccggggatt catattctta 420
acggcgcncg cgnggactcc atnccccata tgatcttttc atcctggcgc ntttaactct 480
gaagggaaac cggnttnccc ttatccctgg anatcccttc c 521

<210> 81
<211> 163
<212> DNA
<213> Pinus taeda

<400> 81
gtggagtgta aaggtcaacg tgccatccgg gtacaaacta ttgtagaaaa aatggcaaag 60
ttaggtctga aaatatccat ttggcctgct ctagttgtac agtacatgat tttgcactcg 120
cacaacaatg gactataatt attttcctgg caaaaaaaaa aaa 163

<210> 82
<211> 486
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (330)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (349)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (364)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (368)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (411)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (431)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (447)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (461)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (476)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base

<222> (478)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (480)
<223> a, t, c, g, other or unknown

<400> 82
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ctaaaattag gtttatcttg atgtttgaca agagatatag aggggcatga tgattcattg 120
atctgtttgc agatctgtaa ctgcaaccat tctaatgaca taatagcgct attgtttggg 180
ttcgtgtgat gacataataa attgatttaa tttaataaca tctgttaatg caatggctgt 240
agctgcatca tcaccgtatc catcgaatgt tccatttttc caaatgtttg tttccaaaac 300
cagaacacca aaatgtcccc tgcgtttgtn ttgaaaaata ttgggcccnt actatactat 360
aatntttngg catactatac tataatgttt ctcccattcc ccccaaatga ntcctataca 420
atcctggccg nctttacact cctgacngga aacccggctt nccactaatc cctggncnan 480
cccttc 486

<210> 83
<211> 144
<212> DNA
<213> Pinus taeda

<400> 83
ggtgcgatcc gactgtgata tgtgactggt gaacgagaga tccttcttat gaattaatct 60
ggtatcttta tgcgaaagct tttagggttg ctacatgctc tcctcttttg tatgaatttc 120
cattctaata tcagtctctg tgat 144

<210> 84
<211> 525
<212> DNA
<213> Pinus taeda

<400> 84
ggggagtgtc aagggataag tggtaagcca ggtttccagt cagaagtgta aaggcggcca 60
gtgatgtaat agattcatat aggggaatgg agtcaccggg gtgcgccgtt ttagaatagt 120
ggatccccgg ctgcaggatt tgatggtgcg atcctgcccc tgataatttg gttgcaatgg 180
aaaatgcagt attaggtgcg agatgtaaag cccgccccgga gcggtgcatg aagtactgca 240
atatttgttg tagtaaatgt gctggttgtg ttcccagcgg tcactatggc aacaaggacg 300
agtgcccctg ctacagagat atgaagtccg cagccggcaa gcccaagtgt ccctgatctt 360
agcacttcag tccagtcgct cacttctttt attctttttt tttataaaag tgacgaggcc 420
gtttttcttg tacttggtgg ccatatgtag agcggtggct acttctcctg tgttaggaaa 480
tgttgcagta ctaataataa gaacttcttt ggcaaaaaaa aaaaa 525

<210> 85
<211> 543
<212> DNA
<213> Pinus taeda

<400> 85
gggtttcctt aagagttaaa ggcgcatgat gtatagaatc atatagggga tggattcccc 60
ccggggggcc tttcagaata gggattcccg gctgcaggat tgatagtgcg atccaagaca 120
cagtggagta ccacaatggg gatctggcca gtgctttgtg gctattcact gcagctgtat 180
taaaacagga agccgcaaat ggccagaagg ccattgaact tgctgagagc agactatcta 240

aggatggctg gcctgaatat tatgatggga agcttggacg atatattgga aagcagtctc 300
gaaagtggca aacctggtca gttgctggat atcttgtagc caagatgatg cttgaagatc 360
catcccattt aggtatgata gcattggaag aggacaaaaa gatgaagccg tccctcactc 420
gatcagcttc ttggataatg taaaatgggg aaatcctaaa ctttcaggcc actcttgaat 480
gttttgtcac ttctgtatga caaatgaggc aattcatagt acatgttgtg caaaaaaaaa 540
aaa 543

<210> 86
<211> 370
<212> DNA
<213> Pinus taeda

<400> 86
ggtgcgatcc cagagaatat tagttcatgt gttgctctca ttttcttcaa tatgcagggc 60
aaccatttga atgaaattat tcctttcgaa tttcaaaaac ttaataggct aacttatcta 120
tctggagccg attttcattg acgagtaacc tgtaagctgg ccagcaaaag ccaacagatg 180
ttcagctcgt tggaaccagt tgaagattgt aatagagatg gtgaataatc gcggacggct 240
cggccaatgg aatatttgtt gcatcatcat caaggggtta tgaattccaa agaacttgtt 300
gattgaaatt cccaagcaaa attctgtgaa atgaaaaatt tattgagacc attgggcaaa 360
aaaaaaaaaa 370

<210> 87
<211> 237
<212> DNA
<213> Pinus taeda

<400> 87
ggtgcgatcc aaagaacaca agatggagtt accacaatgg aggatcttgg ccagtgcttt 60
tgtggctatt cactgcagcc tgtattaaaa caggaaggcc gcaaatggcc agaagggcca 120
ttgaacttgc tgagagcaga ctatctaagg atggctggcc tgaatattat gatgggaagc 180
ttggacgata tattggaaag cagtctcgaa agtggcaaac ctggtcagtt gctggat 237

<210> 88
<211> 476
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (379)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (394)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (400)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (403)..(404)

<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (406)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (414)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (421)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (430)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (433)..(434)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (444)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (450)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (454)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (463)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (470)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (476)
<223> a, t, c, g, other or unknown

<400> 88
ggtgcgatct gtgtggctct gaaacatccc ggctcccctc tgcactataa taatcccaaa 60
attaagtgaa cccaacagaa tttgctcata tctctacagt tattgcagac tgagcaaaac 120
cctcaaactc atgtgacctc tcaataggag cccacgccca agatttgtcc agcatgtaac 180
acacctgatc gccgccactg caagcacaac cgctcacaaa tatcttgtca caccacactg 240
ttgcgcaagt taacaatatt catgtctcca ggaaagaaat gccacacttc ccaacattct 300
ctttactatt atagaacttc cttgttgcta tggaaaaaat acattcccaa cgcagaaccc 360
caacgggggt tcccaatanc ccatttcccc cctntccaan ccnntntgaa tgcnccccat 420
nccctattgn atnntttaaa tccnggcgcn ttanctggaa ggnaacccgn ttcccn 476

<210> 89
<211> 364
<212> DNA
<213> Pinus taeda

<400> 89
gttttcccag tcaggacgtg taaaacgacg gccagggatt gtaatacgat tcactatagg 60
cgaattggag gtcgatccgt ataggtagtt ggatgatgaa cgggcaaaga aggcaaagga 120
gtacagtgat ggatcctgta attcctgttt cagaaaacag aaaatctgca atataaggat 180
ggctaagctt ttcagctatg aaaatatatg gtgcagtggc actcatatca gttgcagagt 240
tgtcaatata acttttgtga ataggaaagt tgtcctcttt tagagtgcag aaatcctgca 300
atataaggat ggctaagttt ttcagctata tgaaaatata tggtgcagtg gcaaaaaaaa 360
aaaa 364

<210> 90
<211> 170
<212> DNA
<213> Pinus taeda

<400> 90
ggtgcgatcc tacagagagc agcttgacga gggccaaaag gttaaggatg aagaatgacc 60
tcagctagta aggtttacag aagcagcaga ggcatcttaa ctgtttttat gttttggcaa 120
aagttgttgc gtcggttgtt taatccagga tttcagatgt attttgtaga 170

<210> 91
<211> 210
<212> DNA
<213> Pinus taeda

<400> 91
attgtaatac gactcactat agggcgaatt ggagggtccg atcctgcgag accgagggtt 60
cattttcctt tagacaacga cgttcagtgg cgaccagagt ttcccaatca cttcagcgat 120
tctattcctt cgttgtaata aagcttaagg aatccatgct ttattccttg gaaggtttga 180
atatttatat ttattggcaa aaaaaaaaaa 210

<210> 92
<211> 237
<212> DNA
<213> Pinus taeda

<400> 92
aggtgaccgt caaaatgatt gcagaggact tagagaggga aaaccgttcc gatctggtga 60
agcaattgga tgaagcagct ctggaattga ttcccgtttc tgatgatatc gtacggctaa 120
gctcagctct tcaggcaatt ggcagagaat acgattcttc aaatgagatg acagatttta 180

agaaacttat agatgaacat atttccaagc ttgaagcgga ttcccctacg gtcacct 237

<210> 93
<211> 525
<212> DNA
<213> Pinus taeda

<400> 93
aggtgaccgt aaaatactat gagaaatgct ttcatcaggc accgctggta ggttttcttc 60
aagcttttca ttaggcaaaa gaggctccgt gagttgatcg ttaattctct ccttgaatgg 120
ccatattgac cagacactct gattagaaac tggaatacaa ctgcacatat agtcattctt 180
atatgattca tccttctgca cttcagcatc ctgcggcaac tcttcatccc gccatactgc 240
agaaaaatta tttgactctt gatcatgttg tagatgaatc ttcatgaatc ttctcatctt 300
gcattcttgt ctttatatct ttaggaaatt gcatctggta aaagtataaa tgcatcttca 360
ctggttgctt cagtttttgc atgctcctgt tcttcttgtt tacatgtgat ctaccaaatc 420
atctaatgta ttctctcaat gtcttgtgga cattctcctt cattccgaga ttaccaatca 480
tctacccgaa taaatgttgc cccgtcagca atgccgtttt ggtcc 525

<210> 94
<211> 437
<212> DNA
<213> Pinus taeda

<400> 94
aggtgaccgt agtaggcgtc cagaggctga caaaatccca ggcctgtgca aatctggaag 60
ccgcatgcag ggccgtggca ccttacactt gcggccttaa caaagtggcc cgcggcaccc 120
acttctacca gtgtgtttat attcttgtgc agccaacacc agaggttatg caggcgaatg 180
tgctggccaa gcgttgtttc ggcttgtccg caaaccctct cgagtcttac atgccgcata 240
tgagtcttgt gtatggcgat ttgcctgacg acgagaaaga gaaggccaag gttaaggcgc 300
agctaaattc gatgaactta tccgcaacac ggaattccaa gtctccagct tgtgcttgta 360
ctcgacagat ctgaaaataa tcctcactca tgcataagtg caaaatgtga tcttaacctg 420
ctctgaaaat tacataa 437

<210> 95
<211> 372
<212> DNA
<213> Pinus taeda

<400> 95
aggtgaccgt ccacgagaat ttggcttcaa aaccctagga gagggatatg aacttgccaa 60
ggcacaactg acgcatgaac aagacgtaaa atgactcatt agacactgac atgataatga 120
aaaacctatg aatgatgata gactcagcta cttgatgaca tcgcccgcca tttggacatc 180
tttataagga gtttaagcaa accctagacc tactgcctag tgaccaactt ttgcttgacg 240
actcactgaa atgacaatat ttgaccttga cacttcaaaa tcactttgta ggaactcatt 300
tgatcactgg aggacggctg gaaagactga cactaacagg actttatata tgcacctcgt 360
ctatccgaac tt 372

<210> 96
<211> 442
<212> DNA
<213> Pinus taeda

<400> 96
aggtgaccgt aagcacaagt cgtcaaaatt atctctattc cggcagtaaa aacctatagc 60

taatgatgga tcaatagcac taagtggcag ctggcgtaca tcactgcaat gataagaacc 120
agtatcaacc cccatattat caggagatat ctccaccacc tgctgcacta catgtggatc 180
taagtacaga gcctgatcat cctgaacacc aacaatatac gttgaagctc caggctttcc 240
accagcaata ccaagacttt ggggaaatgt gaacgtttca cgaagtgatg gtacatacct 300
tgggttgatc ttctctacac caagaacaag cggcaccaaa atcaggatag gcacttggtc 360
ttccccttct ccattggacc actctgaaca cagcctcgca gcatcatcaa tgcagataac 420
tggagtccct ccacggtcac ct 442

<210> 97
<211> 381
<212> DNA
<213> Pinus taeda

<400> 97
aggtgaccgt gaatatggtg ggtatttgca gggcaagatt caggatgctg ctcccggagc 60
ttaagtaagg tcttggaccc taataaattc agggtatatg cattatgtat atgctctcat 120
ttagctgctc atctgatttc cattgggtga atcagttgtt ttgcagtacg tgggggtctg 180
tttatttttgt gagtttatgg tggagttcat tttgttgttg ttgtttttttc ttatctaggg 240
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tgaaagtgaa ttctatgagt ctatacccaa cccaaatcaa taggttgagg taacagttga 180
cccgatttca ccttcaacaa atcatacctt tcccgaagag agtgaacatg attcaacaca 240
agttcttttt ggttcaccag attcaaatga gcttgggggt aatcctcctg ttccatcaag 300
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ccnanaatta tnacnnnana gcnccatgct gggtttgtna naaaanaacn gctnttgata 180
aaattacata gantnnngaa cacgttaaga ggaatatggt tccanatnca ttntnaatna 240
nnanttaaaa actnnntatg tnctagngtc ncct 274

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<212> DNA
<213> Pinus taeda

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agagcctttt tatttcttct ggagagccaa ttgctagcat aatgaatacc atgttcaaga 180
agtaaagaga tgaccacaaa tgccaaacaa acaactgcta ctgcccaagt taggagtttg 240
ctctagagaa cggtcattgc cacggtcacc t 271

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<212> DNA
<213> Pinus taeda

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atgagggcaa gagtggcaac gctgattcag atgacttgaa tgaaatggaa gtcaaagcta 180
aagcagccga acaactgctt gctgtgcatg gggcagcatt actacagaat gctctgaaag 240
aaaatttgtc gagtcatgaa atgcgggttg gttcaaatac aagggaggaa ggtgaagtta 300
gaaagaacag aaagggcatc aacgcagacc cctcactgat atcggcaaca ctacggtcac 360
ctaagccaat tctgcaaatt tccatcactg gcggggcccg ctccaacttc ctctaaaagg 420
ccaattcccc tatatgattc ttattacaat ccctggccct ccttttccac ttct 474

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<211> 197
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<213> Pinus taeda

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attacagggc aaggatccgc ctgattaacc aagataagaa caagtacaac acacccttgc 180
caaaaaaaaa aaaaaaa 197

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<211> 208
<212> DNA
<213> Pinus taeda

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atgaacatcg tattgtggag tggagccact cgtgacctga ttctgtccta agtacttggt 180
cctggaatac aatattgcac ggtcacct 208

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<211> 511
<212> DNA
<213> Pinus taeda

<400> 104
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atacaatcct aacatccatc tcccgacaga cctccagtat atgtacaagg cgctgaaaga 180
aggctgatta ttttctattc cagctcgcat aacgtggttc ttctgaggct ttgcctattc 240
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cagggaacct tggactccct ttaaaaccta gagctacttt ttacgaaccc ctgcttctct 360
tgaacactta gggaacttat acttacaaaa cttcgggaac tccacccccc agctttgcag 420
gactccagca gattccccaa actgccagaa ggcatatttc catgcactgt taggggtgaa 480
ttcctactat caaaaccccc aaaacatcat a 511

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<212> DNA
<213> Pinus taeda

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ggaaatgaca tcattaagtg cggtcacagc ctctgcatag tatttctctg ccttgggtgt 180
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ttagcgaaag taagaaacct ttggaaccga agtccgttct tgacgttacc gcacgccttc 360
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ctgttccccc 430

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<212> DNA
<213> Pinus taeda

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ctttcagagc attctgtagt aatgctgccc catgcacagc aagcagttgt tcggctgctt 180
tagctttgac ttccatttca ttcaagtcat ctgaatcagc gttgccactc ttgccctcat 240
ccttgtcttg gttttgtctt ccgtgccttg tccatttgga gagtcttcac agcttctgcc 300
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tt 362

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<212> DNA
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ccttgtcttg gttttgtctt cgtgccttgt ccatttggag agtcttcaca gcttctgcca 300
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<212> DNA
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atcggcattg tggagacatt ctttcctatt cctcgcagca tctctccgat ggttgctctc 240
tccggagctc catgttatcc ccggcactga gacagtcgct gccgaatcgc aagagcttct 300
ttgtttttttg caggcttctc caaacataat gcctccgggc cccctcaaccg aattctgcca 360
aatccacccc 370

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tcaacagtgc tgcaacaatg ggcataacgt ctcccgaatt aattgaaact attgtgaatc 180
aacagatagg tttctggtca catctagcaa tacaaacaca aataactgtg gaacagagcc 240
acaaaactat gcttcagagc atctaattac acatatcttc tctaaaaccc ttgcataaaa 300
aataaactga atctcgacct tagcactatt gccaccatca tctcaagcaa acattctcta 360
gaataccatc ttcacaatgc actaaagtta cataagcact gaacttaaaa catttctgtg 420
acgaatgaag gaccaattca tcatactcag cctttgcatc caatctgttg aatgtgctga 480
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<212> DNA
<213> Pinus taeda

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cggagatatt taaaaaaaaa gaattgtcat tatggtaaat aggtgtgaca ggttatcaat 180
agaataactg acgagagtaa actgataatt attaaggtta aagtgttcgt aaaggagact 240
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<212> DNA
<213> Pinus taeda

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ggggtaaatc tgggtaagaa cccttctgtt aaccctacta ataccaacat gcacttgtcg 240
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attaagtgcg gtcacagcct ctgcatagta tttctctgcc ttgggtgtat ccttgctcct 180
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cgaaaagggc tgaatataaa accgtcctca acggcattcc attcctccct cgtctgaaac 480
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<212> DNA
<213> Pinus taeda

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ccaaataagt gttgagagtc cactggctct gtacgcgtgg cagaatcaca acggacttga 120
gaaagttgaa gatggaattt gtatcgctag atggccagac catgttgctt caagggatgc 180
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acattaattg ggttgtggag ttaaagatct ctcacgttcg gggaaaatcc aagccatcat 300
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ctcnccaaac acattataca cgataagaga gcntaaacta ctctattcct ttgacgnagt 180
gactacntga gtanaagcga tcattatctt gcnaactttg catgaaaaac aacaaaccca 240
cntccagttt ctctatantc tggccccacn atgaataana ntcctgccat aataatgant 300
ctttgtcccc anaganaaat tnnataagac aggagcccac tgttgcttgc atgactacca 360
ntcactttaa ggcgttgcga atcccggtcc taaccatctc cataccatng gcanncttta 420
ctttccaact gcccaagact gtgaacaggg cggttcnnac cctataantt ttagcctctn 480
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ggcctcaaaa tttccagcta ctcgtatttg atcaatgctg aaatcgcgta atcacgtaga 180
taataaagcg taatgaattc tataatgaag catgtttctc tatagttcat gttgccgaga 240
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tcttccttgg ttagagaccg tcaccttcac tttgaattgg ataaagcttc atttgtttaa 360
gacctcccac ccgtaaatac atacggtagc cttcttatgt tagaaacata cgtcacctac 420
gcagaattgt tagaatgaaa tga 443

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<211> 483
<212> DNA
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aggcatccta cccaagcagt ttgggactca tgggaagtac ctctcatctg atcaatgagt 180
aggaaatggg gttagggacc attaagtagt attatcgatg gatgcattgt tgtatctatt 240
gtactcccta tgctagaatg aactccattg atctgggatc aatgaatact gtttctggga 300
atcattgaaa atttgtatga acacactctg aacactgaat ttccggttca ttggaagaga 360

tggttttaaa cactctcctc atctcatttc ttccccttcc ttattccaac caaatttggg 420
ccaccctgcc aggaaattca tttgatggtt ggaaaatacc acgggcccta accaattctg 480
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<223> a, t, c, g, other or unknown

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<223> a, t, c, g, other or unknown

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<222> (529)
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<222> (561)
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<221> modified_base
<222> (568)
<223> a, t, c, g, other or unknown

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<222> (579)..(580)
<223> a, t, c, g, other or unknown

<400> 117
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tcnttnncta nnnnaagntt aatcctatcc cnttanagtt gacggtctct anncctagaa 120
gagaanccat aacatctcct tgagcnacac atgggatata ccgccanctt atntaatact 180
ttcncngcac ggtaacngac canaancatt cttcactata gaattcatgt cgcttcatta 240
tctacctcat tncnccanat ccccccttnat ctcatnnatt tatctagaaa nttctgaagn 300
tccnnaaggg ttcgttttgc accncccccaa ntaaaaaanc cctnccgntt acntcgaacg 360
aaggttttca aangaacagn aattccttta caaaaatcaa naattttaac ttcccnaatc 420
cggccccccn gtncccgaaa cccnatttct acgattgcat caccccgggg gnccnctcaa 480
nccnnctttct taaaggncca tncccntnnn tgatcctctn ccatccaang gcnccctttcc 540
acttttattg gaaaaccccc nttcccccntt ttacccttnn aaggcccctt ccc 593

<210> 118
<211> 298
<212> DNA
<213> Pinus taeda

<220>
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<222> (237)
<223> a, t, c, g, other or unknown

<400> 118
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agtgcatgtt ggtattagta gggttaacag aagggttctt acccagattt acccctttgg 120
cggagatatt taaaaaaaaa gaattgtcat tatggtaaat aggtgtgaca ggttatcaat 180
agaataactg acgagagtaa actgataatt attaaggtta aagtgttcgt aaagganact 240
tggactctag gttggatgcc tacacttaga gcccgttccc gcacttggac ggtcacct 298

<210> 119
<211> 631
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base

<222> (591)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (607)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (609)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (616)
<223> a, t, c, g, other or unknown

<400> 119
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acacgtttcc aacggattac gtgccgactg tttttgacaa ttttagtgca aatgtggttg 120
ttgatggcaa tacagtaaac cttggcttgt gggacactgc agggcaagaa gattacaaca 180
gactgaggcc attgagttat agaggtgcag atgcttttct gcttgccttt tctctgatca 240
gcaaggctag ttatgaaaat atatcaaaga agtggattcc agaacttaga cattatgcac 300
caaatgtgcc aatcattctt gtgggaacta aattagattt gcgtgatgac aagcagttct 360
ttgctgatca tcctggagca gcccctataa caacagctca aggtgaagag ttgaagaagc 420
agattggagc agcagcatat attgagtgca gttccaaaac ccagcagaat gtcaaggctg 480
tttttgatgc tgcaattaaa gtggttcttc agccaccaaa gcagaaaaag cggagaaaaa 540
agcagaaaaa ttgttctatt ctctaagaaa aatgtggatg ttctgaacgc ncttcactga 600
caataangnt gacgtnggaa tatcttcctc c 631

<210> 120
<211> 443
<212> DNA
<213> Pinus taeda

<400> 120
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taatgatgga tcaataccac taagtggcag ctggcgtaca tctctgcaat gataagaacc 120
agtatcagtc cccatataat caggagatat ctccagcacc tgctgcacta catgtggatc 180
ttagtacaga gcctgatcat cctgaacacc aacaatatac gttgaagctc cgggctttcc 240
accagcaata ccaagacttt ggggaaatgt gaacgtttca cgaagtgatg gtacatacct 300
tgggttgatc ttctctacac caagaacaag cggcaccaaa atcaggatag gcacttggtc 360
ttccccttct ccattggacc actctgaaca caagcctcgc agcatcatca atgcagataa 420
ctgggcgccc tccacggtca ctt 443

<210> 121
<211> 327
<212> DNA
<213> Pinus taeda

<400> 121
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taggaatcaa catgaaatca gctccagctg ttatcatatg agcaagtggc acgttaaact 120
ttgctactcc cctgacgttg tctggatatt tctcttcaag ctcttcaagc tgcttctcca 180
agtacttttt accggtgcct aggataatta actgcacgtt ttcatctgca attagaggga 240

cagcttcagc aagaatatct ggacctttct gctcttcaag tcttccaata aatcctataa 300
caggaatatc tggatccacg gtcacct 327

<210> 122
<211> 284
<212> DNA
<213> Pinus taeda

<400> 122
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ggcctcaagt cgccctgaat ttggtcaaca acatcttgat agagcgagag gacgctccca 120
attaagatct ggaaactgtc gagagtgatt gaggtcattt ttaatctaaa ctgaattgtg 180
gggacaattt ttcaattcag atccttctag caaagcaaag caaagcttaa cagtattgta 240
tccatgagaa tggattctgc acaggtcagg ctccacggtc acct 284

<210> 123
<211> 412
<212> DNA
<213> Pinus taeda

<400> 123
aggtgaccgt ggagaagaga acgctttgcc gactctctgg gatgcccttc cctccatagc 60
cgtcgtggga ggacagagct ccgggaaatc ctctgtgctg gagagcatcg ttggaaggga 120
ttttttaccg cgtggatcag gtattgttac tagacggccg cttgtccttc aacttcacaa 180
gactgatgaa ggcagcaggg attacgccga attccttcac caacccagaa agaaatacac 240
cgactttgca ctggtaagga aggaaattgc ggatgagact gatcgaatta cagggcgttc 300
caagcaagtc tcaagtgtcc caattcacct tagtatttat tcacccaatg tttgtaaatt 360
tgactctaat tgatctccct gggttgacaa aagtggctat tgacggtcac ct 412

<210> 124
<211> 235
<212> DNA
<213> Pinus taeda

<400> 124
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tggctccact ccacaatacg atgttcatcg ttttgatcac aatacaggtt tgttagtcca 120
agtaggtgcg ctgctgcaga cagtggggca gccctcgtgg gcttggactg cctgtcatac 180
tgttctctcc ttgcttcagg ctctactgct gttgctgctg ctgatacggt cacct 235

<210> 125
<211> 353
<212> DNA
<213> Pinus taeda

<400> 125
aggtgaccgt acatacaagg tcttatcacc agcagcaaga ataatcagtt ggccatcttc 60
tgcaggcttc ttgctgcctg agacaggagc ctcaagaaat cttcccccct tttcaatgat 120
tgcctcattg atctttgttg aagtgatagt atcaactgtt gacatgtcaa tgtatccttt 180
tcctgtacac atttgctcta ggacaccatc cgagagggca gcaggaggat cagacaggat 240
ggctatggta tagttgcact tctttacaac ttcggcagga gtgcttccta tggaagcacc 300
ttgctgaaca agttcttcac acctagacat tgtcctattc cacacggtca cct 353

<210> 126
<211> 355
<212> DNA
<213> Pinus taeda

<400> 126
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gcaggcttct ggctgcctga gacaggagcc tcatgaaatc ttcccccctt ttcaatgatt 120
gcctcattga tctttgttga aatgataata tcaactgttg acatgtcaat gtatcctttg 180
tcctgtacac atttgctcta ggacaccatc cgagagggca gcaggaggat cagacaggat 240
ggctatggta tagtcgcact tctttacaac ttcggcagga gtgcttccta tggaagcacc 300
ttgctgaaca aagttcttca cacctagaca tttgtcctat tccgcacggt cacct 355

<210> 127
<211> 441
<212> DNA
<213> Pinus taeda

<400> 127
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gtggtccaat ggagaagggg aagaccaagt gcctatcctg attttggtgc cgcttgttct 120
tggtgtagag aagatcaacc caaggtatgt accatcactt cgtgaaacgt tcacatttcc 180
ccaaagtctt ggtattgctg gtggaaagcc tggagcttca acgtatattg ttggtgttca 240
ggatgatcag gctctgtact tagatccaca tgtagtgcag caggtggtgg agatatctcc 300
tgataatatg gggttgata ctggttctta tcattgcagt gatgttcgcc actgccactt 360
aatgctattg atccatcatt agctataggt tttactgcc cggaatagaa ataattttga 420
caacttgtgc ttacggcacc t 441

<210> 128
<211> 437
<212> DNA
<213> Pinus taeda

<400> 128
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gtggtccaat ggagaagggg aagaccaagt gcctatcctg attttggtgc cgcttgttct 120
tggtgtagag aagatcaacc caaggtatgt accatcactt cgtgaaacgt tcacatttcc 180
ccaaagtctt ggtattgctg gtggaaagcc tggagcttca acgtatattg ttggtgttca 240
ggatgatcag gctctgtact tagatccaca tgtagtgcag caggtggtgg agatatctcc 300
tgataatatg gggttgata ctggttctta tcattgcagt gatgtaccca ctgccactta 360
gtgctattga tccatcatta gctataggtt ttactgccgg aatagaaaaa ttttgacaac 420
ttgtgcttac ggtccct 437

<210> 129
<211> 434
<212> DNA
<213> Pinus taeda

<400> 129
aggtgaccgt gctaggacac acaatttctc agcaaggatt acaggtggat cctaacaaaa 60
ttgctataat tcaaaaggtt ccacctcctt aaaaggtaag agatgtttgg agttttctag 120
gcttggcagg atattataga agattcatca aagatttcat taagctagcc tcgccattgt 180
ctagcctctt agggaaagat gttgagtttc aatggactga tgactgccaa ggggctctgg 240
atgagttgag agataagctg gtatccgccc cgatcttgag aggtctaaac tgggccctac 300
ctttccacat ccacattgat gcctcgaaca aagccatagg ggcagcctta ggacaagttg 360

aagagaaaat accatatgcc atatactttg tcagcaaaaa tctgtctaag gcagaactga 420
actatacggt cact 434

<210> 130
<211> 427
<212> DNA
<213> Pinus taeda

<400> 130
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aaaatcaaca cacggtaaat gtcttgagac taacgagaaa ttaataatca cgttgtacaa 120
agaacagtat gtcccgtcac gtcacgagtg ccctgagaga tcatccaact ttctctgaac 180
cctcgtgtta cacgcacgca aaatcaagga tcagttgtag ttattgctgg cgtgacagac 240
gtgacaccta ctgttccgct acaaacgata taattgaatc catgatcgga ttatgtatta 300
tgatcttagc gcagtggtta tgaaattatg atgaatttgc ttatgatttt ctcagcgttt 360
gtggaagaat ctcgctattg aaaacttccc cgtatatttc caaacttatt atcatcccac 420
ggtccct 427

<210> 131
<211> 261
<212> DNA
<213> Pinus taeda

<400> 131
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ctgtgaggca cggaaaacga gataagttgt aaaagtttgc tcgctgattt gaggcacgga 120
aaacgagata agttgtaaaa ttttgctcgc tgatttttg ctgaatattt ctctcactat 180
aaaaagcatt ttccagaaat aagaaggagc tttcgaactg gttttcccca agagttgtag 240
ggggtttttc cacggtcacc t 261

<210> 132
<211> 262
<212> DNA
<213> Pinus taeda

<400> 132
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ctttaggtag aaggcgagga gggctttatt agtacagttc tgtgtaatct taatgatatt 120
ttttgcacta ttattttatg gtaaaaggat tgatttgtct tttgcaaagg ccttaggatt 180
gtttatttac ctttgggcta agggaggagg taaatttttc acattgggaa aaaaaatgcc 240
tcggtcgttg tcacggtcac ct 262

<210> 133
<211> 126
<212> DNA
<213> Pinus taeda

<400> 133
aggtgaccgt gccagtatga cagatggaac catgcagcta gccaccaaat tgtaaacatc 60
aaattttgtc ttcaatataa gttgcaaatt cttaattaat tatgatcacc atttcaacgg 120
tcacct 126

<210> 134

<211> 238
<212> DNA
<213> Pinus taeda

<400> 134
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ttgggtgtgt tgtacttgtt cttatcttgg ttaatcaggc ggatccttgc cctgtaatcg 120
gtcttcccct ctctcctgcg cttgaatttg acctgaaacc tcttgaagta ggccctggtt 180
ttctgggctt tgacgaaaac catggttgtg gatctcctct ctcctgctac ggtcacct 238

<210> 135
<211> 245
<212> DNA
<213> Pinus taeda

<400> 135
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gaatggtacc agcatagaga agaaacacag acggtttgaa gaggatgatg gatctgccat 120
agatgaacga tcaaataagg ttcaaaagct ggaaaatgat ggtgaattcc atgcatccca 180
cttggctctg tccctcaagt tgaatatacc tggacgagag gtattgcatt tcccaacggt 240
cacct 245

<210> 136
<211> 239
<212> DNA
<213> Pinus taeda

<400> 136
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cagggaaagg gagatcaatg gcatcatgct acttcttgta gctgtttaac cttagtgatg 120
taatcttcca tggcagactc gggggtttta tctttaagtt gaatttccat gcatcccctt 180
gggctctgtc ctccagttga atatcctgga acaagaggtt ttgctttcca cggtcccct 239

<210> 137
<211> 276
<212> DNA
<213> Pinus taeda

<400> 137
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atgtgaaaac tgaattgcta tatatgatgc ctagtcttgg cctctcaatt acaagttcaa 120
cgtcttcaaa tgattgaaat atggaccttc ttaaccgttc tggaaatcta tcaatcttca 180
aaattttgaa actttgcctc gatcttggag tgatcagact tgatttctaa tcctagaaat 240
accctatcac tggctacctg gtctgtacgg tcacct 276

<210> 138
<211> 274
<212> DNA
<213> Pinus taeda

<400> 138
ggtgaccgtg ggataggcag aagcaagaaa cacagaagtt cttccgggaa tgtaagcgct 60
gacagtgggg gagaaagtag tgaacaagga catggtcggt atgaaataca tggcaggcga 120
tggatttcaa gggattaagc atctcaatgg atatttacta ttggactgta gtaactttcg 180

ccatcgcttt ttgaacacat ctgtggctta actgtcatct gtaatggtaa gcgaaccagg 240
ttttgttctg aaccacttgt atgtacggtc acct 274

<210> 139
<211> 526
<212> DNA
<213> Pinus taeda

<400> 139
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cgccgtataa aggtggaaaa ggtatgtttt gcaggtattt ctttgtaaat ggtttataat 120
gggttaagct cggatatatg aggtttatat ataagtcctg ttagtgtcag tcttaccagc 180
cttcctccag tgatcaaatg tgctctaaca aagtgatttt gaagtgtcaa ggtcaaatta 240
tgtcatttca gtgagtcttc aaacaaaatt tggtcactag gcattaggtc taagggtttg 300
cttgaactcc ctctagagtt gtccaaatgg gcgggctatg tcatcattta agctgaatct 360
atcatccaat caataaggtt tttcattatc atgtcagtgt ctaaatgagt cattttaccg 420
tcttgttcac ggcttcactt gtgcctttgg caaattcaat tccctcctcc aagggtttga 480
aaccaattct cttggacggc ccctaaacca aatctgcaaa atccac 526

<210> 140
<211> 538
<212> DNA
<213> Pinus taeda

<400> 140
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cgccgtataa aggtggaaaa ggtatgtttt gcaggtattt ctttgtaaat ggtttataat 120
gggttaagct cggatatatg aggtttatat ataagtcctg ttagtgtcag tctttccagc 180
cttcctccag tgatcaaatg tgctcttaca aagtgatttt gaagtgtcaa ggtcaaattt 240
tgtcatttca gtgagtcttc aagcaaaatt tggtcactag gcattaggtc taaggtttgc 300
tttaactcct tctaaaagtt gtccaaatgg cgggctatgt catcatttag ctgagtctat 360
catcatcata ggttttcatt atcatgtcag tgtctaatga gtcatttacg tcttgttcag 420
ctcagtgtgc ctggcaattc attcctctct aaggtttgaa ccattctctt gacggcacta 480
agccaatcca cactggggcc gtctattgaa tcaacccgga cactgggtta caggcaac 538

<210> 141
<211> 498
<212> DNA
<213> Pinus taeda

<400> 141
aggtgaccgt ccaagaagaa attggcttca aaaccctagg agagggaaat gaacttgcca 60
aggcacaact gaagcatgaa caagacgtaa aatgactcat tagacactga catgataatg 120
aaaaacctat gaatgatgat agactcagct aaatgatgac atagcccgcc atttggacaa 180
attttagaag gagttaaagc aaaccttaga cttaatgctt agtgaccaaa ttttgtttga 240
agactcactg aaatgacaaa atttgacctt gacacttcaa aatcactttg taagagcaca 300
tttgatcact ggaggaaggc tggaaagact gacactaaca ggacttatat ataaacctca 360
tatatccgag cttaacccat tataaaccat ttacaaagaa atacctgcaa aacatacctt 420
ttccaccttt atacggcgtc tacatagata ttgatgctcc ctttatcaca atcactaatc 480
gctccaccac ggtcacct 498

<210> 142
<211> 350
<212> DNA

<213> Pinus taeda

<400> 142
aggtgaccgt gatagacccc aagaaaaata gatccaaccc tcagagggac aaagacttat 60
aaagactaga agagtgaatc aacctattct atttagaata tatatttttg gggtgcttgc 120
ttatcgtttt gggggttaat gtatgtcgta ctacggtctt atgccctaat ttgcccattg 180
aaatcaacta aattgacagt aaccgactaa aagttggtcc acactaagat atcgatgacc 240
aacgatcata aaggtgtcca tgatcctaat agtatatgtg tcaattaatg taactttggt 300
gctacaacat aaaaccattc gtggggatcc tccttttttat gcggtcacct 350

<210> 143
<211> 346
<212> DNA
<213> Pinus taeda

<400> 143
aggtgaccgt gggaccgacc ttgactacag gccaaaattt tgactgttga ccagcgttca 60
cttctgtatt tttggttggt atgagcaaca ttgacttgct ggaaattgac caggtttgac 120
tggtatttgg acttggattt tggcacagat ttctagacaa tttgtatttg taaaccttac 180
agaagaataa tttatcgaag aagaaaaatg ctaggtttcc cctcaagttt gggtttccca 240
agggaaaaat tgttgtccca atggttgaat tttccaaagg tctcctaacc cgacaatacc 300
tcctaagaat tccttaattt aacctttctt gttttcacgg tcacct 346

<210> 144
<211> 335
<212> DNA
<213> Pinus taeda

<400> 144
aggtgaccgt gaaggagcag caacaatttg attttgtttg ggtagatcgg ggattttctc 60
gtggaacata cctgattgag tataaactaa gtcaaggtac tgtgcttgag aaattacttg 120
ctcctcagta actactctgg ccttagctac atcctcagtg atcttgggta gtaaagattt 180
tacaaaccat tcagctaaga tctgatccgg gatataaact ttcactaaac gtcgtcgacg 240
tctccattca tggatatgat ctgaaatgta agtggacgtt gactgcttta acgaagttaa 300
taattctgtg ccattttcat atctgacggt cacct 335

<210> 145
<211> 344
<212> DNA
<213> Pinus taeda

<400> 145
aggtgaccgt acctaatggg aagacacttc aaggtaaaaa caaatcatga tagtcttaaa 60
tacctttttag aacaaagatt atattcagaa caacttgctg gaagtgtacc aagtatgact 120
ggtattgaga cttagatctt cgcacagatt tcaagacaat ttgttgttgt aagactcact 180
cacgaaaagt gatgtggata tgaagaactt ccctgtcgcc tcttggttag gagtctccca 240
ctcataggaa ttgtgtaact tataacttgg tccactaaag aagttaggta cagtgtgttc 300
ctttaccagg ttccctgttg taacttacaa atctacggct acct 344

<210> 146
<211> 288
<212> DNA
<213> Pinus taeda

<400> 146
aggtgaccgt cactggaggt ttgagatgct tgatcggtac tgaaatgaga catgatcaga 60
ataggacctt gttgaggccg tgtctcaccc cccatccaca atcttttgta attttgagtt 120
tcgtttagaa catacttgta ggataaaact taccttactc atggatcatg gctgtatatg 180
tttatcgacc agagacagat atgccgaatg aaagcgagtc tagtattcta atgcaatata 240
ttggtagtat gggacatagt actgaacact tgtatagtac ggtcacct 288

<210> 147
<211> 288
<212> DNA
<213> Pinus taeda

<400> 147
aggtgaccgt ggtctcagtt atgccatatg tccgcccctc catatgatgc tccgcctcta 60
tggggtcttt tgcgatgttg atatctagta gtacttcttg tcctattgca gcaacctgta 120
ctggtgttgg tgttggttat gggtctccta cgcgatggag atatgagaca cccataggtc 180
gaacaggtct aatatctgga atccaacgct atttgttgta gaagaaacgt tgctcccgtc 240
ctttagcttt ggctggtcac tatccttacg ctccacgtac ggtcacct 288

<210> 148
<211> 208
<212> DNA
<213> Pinus taeda

<400> 148
aggtgaccgt tgggaaatgc aatacctctc gtccaggtat attcaacttg agggacagag 60
ccaagtggga tgcatggaat tcacttaaag ataaaacccc cgagtctgcc atggaagatt 120
acatcactaa ggttaaacag ctacaagaag tagcatgatg ccattgatct ccctttccct 180
gcctcttcta ttatcagtac ggtcacct 208

<210> 149
<211> 197
<212> DNA
<213> Pinus taeda

<400> 149
aggtgaccgt caaggcaaag tgtcatgcca ctcattggaa ttagttaata tagctaattt 60
gagatattac agtcaactgt gggtatatgt atgtgagatc aaggtgcagt ttagatatta 120
tcagtggtgc agtttagata ttatcagtgt ttgtgaatct gcatactgct tttggttggt 180
tctaactacg gtcacct 197

<210> 150
<211> 527
<212> DNA
<213> Pinus taeda

<400> 150
aggtgaccgt agacatatat catggaaaac ccaagtaaca tacaaacaca aaacacatgg 60
aaacttcata aaacctccac tcgtcataag ctttattgct atgttattgt ggtgttgcat 120
cgtacttagt ggaggttatt gttatgttat gtgttctatt ttcctcccga acgcccttcg 180
gaattgagct aaccgtggtt aacaacatgt gggctttttt tctcgacagt atatatataa 240
taaatcttta ttttttttaaa aactaatgct attgcattta tatactggaa aaaatgattt 300
ttcttgtatt atcgaaaata ataatttagt ttcttgataa tcacttggaa ttaagaaatt 360
acaaacccta acaacatcaa gaaattttaa aacacataag ctagaaattt taaaacacat 420

aagcgtgaca acaagaagat caaatctaat acttgcttgg gccggagatt atggattcat 480
gaagcgattt gacagcgtcc attgatcttc ctctcccacg gtcacct 527

<210> 151
<211> 171
<212> DNA
<213> Pinus taeda

<400> 151
gggggtaggg gtgtttatac tgagcatact tcgaaagtgg ttcaccacca ccatgatgac 60
taattgttcc tgactttggt agacctataa taaattccat agaaacctcc gtccatattg 120
atgccggaat gggcaacggt tgtaatgtgc ctggtacttt gacggtcacc t 171

<210> 152
<211> 412
<212> DNA
<213> Pinus taeda

<400> 152
aggtgaccgt tgggaaatgc aatacctctc gtccaggtat attcaacttg agggacagag 60
ccaagtggga tgcatggaat tcacttaaag ataaaacccc cgagtctgcc atggaagatt 120
acatcactaa ggttaaacag ctacaagaag tagcatgatg cctagacaaa tagctttgct 180
caacacatcc tgatagtgta cactaaatcg cacaacttta ctactacaaa gaaagatcgt 240
tgacaccttg acaaatagct ttgctcaaca catcccaaca atttggattg cgaataccga 300
ctccaatttg tacttgatcc atatgtcgtt gcgatgtact agttcctcta tacatatgtt 360
tctgcaagaa tcggagttgg acctcttctt ccctgttatc agcacggtca ct 412

<210> 153
<211> 409
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (307)
<223> a, t, c, g, other or unknown

<400> 153
aggtgaccgt ggataagaga acgctttgcc gactctctgg gatgcccttc cctccatagc 60
cgtcgtggga ggacagagct ccgggaaatc ctctgtgctg gagagcatcg ttggaaggga 120
ttttttaccg cgtggatcag gtattgttac tagacggccg cttgtccttc aacttcacaa 180
gactgatgaa ggcagcaggg attacgccga attccttcac caacccagaa agacatacac 240
cgactttgca ctggtaagga acgaaattgc ggatgagact gatcgaatta catggcgtgc 300
caagcanagt ctcaagtgtc ccaattcacc ttaatattta ttcacccaat gttgttaatt 360
tgactctaat tgatctcctg ggttgacaaa attgctattg acggtcact 409

<210> 154
<211> 241
<212> DNA
<213> Pinus taeda

<400> 154
aggtgaccgt tgggaaatgc aatacctctc gtccaggtat attcaacttg agggacagag 60
ccaagtggga tgcatggaat tcacttaaag ataaaacccc cgagtctgcc atggaagatt 120

acatcactaa ggttaaacag ctacaagaag tagcatgatg ccattgatct ccctttccct 180
gcctcttcta ttatcattga tctctctttc cctgcctctt ctattatcag tacggtcacc 240
t 241

<210> 155
<211> 289
<212> DNA
<213> Pinus taeda

<400> 155
aggtgaccgt acatacaagt gctcagtaca atgtcatata ctaccaatac atttgattag 60
aatacgagac tcgctttcat tcggcatatc tgtctctgga tgataaacat ataaagcctt 120
gatccatgag taaggtaagt ttgaagctac aagtattttc taaacgaagt tcaaaattac 180
ataagattgt ggctggggcg tgagaaacgg cctcaacaat gtcctgttct gatcatgtat 240
catttcagta ccgatcatgc ctatcatacc cgcctggtga cggtcacct 289

<210> 156
<211> 209
<212> DNA
<213> Pinus taeda

<400> 156
aggtgaccgt actgataata gaagaggcag ggaaagggag atcaatggca tcatgctact 60
tcttgtagct gtttaacctt agtgatgtaa tcttccatgg cagactcggg ggttttatct 120
ttaagtgaat tgccatgcat cccacttggc tctgtccctc aagttgaata tacctggacg 180
agaggtattg catttcccaa cggtcacct 209

<210> 157
<211> 191
<212> DNA
<213> Pinus taeda

<400> 157
aggtgaccgt atagtgtcaa gcttttctgg attggataat ggacggcggc ttgcgacata 60
catctacaca ttctgtaaca agtacactct actgcaacag cagacccaat ttcacctctt 120
cagtcagcca gagatctcga tggatttggg ttgaggaggt tggggttctg cctgcttcgg 180
cacggtcacc t 191

<210> 158
<211> 415
<212> DNA
<213> Pinus taeda

<400> 158
aggtgaccgt gctaagtaat tatcatctgt acctgtgctt gctgcaggaa gtaaaccaac 60
ccgactagtc tttttaataa tacagggagc cttgccacca atttcctctt gaagcaccca 120
tattggacgg gtttgtgtca tcctctgtat tatccttttt catcccaagc aggctgtctg 180
tttttgtagt agaaggatca caacacagat caggccctcc atagtacaaa gaagaaccga 240
ggaaagtatc attaacgttc tgactcctgc catgaaggct tccactatga ccttgaccct 300
tttgtgaatt actgccattt agaccttgac tggctcttgc aaccaaatgc cccagaatgg 360
aacttctttg tgctccagtt ccattgtggt tagttgaatc cctaccacgg tcact 415

<210> 159

<211> 414
<212> DNA
<213> Pinus taeda

<400> 159
aggtgaccgt gcaatattgt attccaggac caagtactta ggacagaatc aggtcacgag 60
tggctccact ccacaatacg atgttcatcg ttttaatcac aatacaagtt tgttagtcca 120
agtaagtgcg ctgctgcaga cagtggggca ccccccgtgg gctttgactg cctgtcatac 180
tgttccctcc ttgctcctgc tcttgctctc gctgggctgt ggtgagttac taacctggtt 240
cgacccacaa gggcttctca ctagggcgtt aggctgcatg gatctgccag atattgtggt 300
tgcaagggac agaggcatga gacacaggcc tttgctttgc agaaactgca ttgctgaccc 360
catgttttca tccatcagtt ttgctacctc tccttctgtt atggacggtc acct 414

<210> 160
<211> 225
<212> DNA
<213> Pinus taeda

<400> 160
aggtgaccgt atccgcagca gcaacagcag tagagcctga agcaggggac ctaattacag 60
tcaaaagtcc agggctacca atgcctgcta acagcgcact tacttggact aacaaacttg 120
tattgtgatt aagacgatga acatcgtatt gtggagtgga agccactcgt gacctgattc 180
tgtcataagt acttggtcct ggaatacaat attgcacggt cacct 225

<210> 161
<211> 234
<212> DNA
<213> Pinus taeda

<400> 161
aggtgaccgt atccgcagca gcaacagcag tagagcctga agcaggggac ctaattacag 60
tcaaaagtcc agggctacca atgcctgcta acagcgcact tacttggaac taacaaaatt 120
tttattgtta attaaaaacg aataacatcg tttttgtggg agtggaacca ctcgtgaact 180
gaatcctgtc ctaagttctg ggtcctggga ataacatatt gcacgggtca cctt 234

<210> 162
<211> 548
<212> DNA
<213> Pinus taeda

<400> 162
aggtgaccgt tacagctagg gaagacttta aaagtttgta aaactaagca tagctcttaa 60
acactgaagt taaaagacat gattggaatg tgcaagtggt tcagtatcca aatattgaag 120
gttgcagaat atggagctac tgtgcaaacg agtaacttta tctatatttt cacaagatca 180
tacaatggga aacgttgaga taacaactgc atcggtgaac cagaatagtt ataaaagttc 240
ttgcaagtaa agggatgaat aattgcatgg ttggaattaa gaatgaccat gtagagctgc 300
tatacagatt ctccaaggtt ttatatttga ggagtgcgcg ctattgatgt tgtgcaaaaa 360
tttcagaaat taagttctgc ggcatttatc aaggttgttt gagccattta aatagcaagt 420
ttttgtttct ccaagtactt tcaggaaagc agatagctct agttataatg ctccagtgac 480
aaacacatct agttggggca gtgaatgacg cttttgtcat tctcttttgg tttcaggcac 540
ggtcacct 548

<210> 163
<211> 176

<212> DNA
<213> Pinus taeda

<400> 163
aggtgaccgt ggacaaactc tagaacaggc atagctttca tgttcagttg tttttaaaga 60
gcagtcctcg cagcagatcg tgcagcttcc tgcttcactt ccgttgattt tcctgatctg 120
aaatacccgt aaacttgctg aagaacccaa atacttaata gcgtctctaa acaaaa 176

<210> 164
<211> 699
<212> DNA
<213> Pinus taeda

<400> 164
aggtgaccgt gcctgaaacc aaaagagaat gacaaaagcg tcattcactg ccccaactaa 60
tgtgtttgtc actggagcat tataactaga gctatctaca agccaaaaca gtgtttggga 120
gagattccat aacgtcattg cctctgctac acatcattca ttggttccaa taatgaagcc 180
acgtgctaag gacattgaga gaatcttata aaacaagaaa tatagtaaat tgggaaatgc 240
attttatcgt ctaacctgct ttcctgaaag tacttggaga aacaaaaact tgctattaaa 300
tggctcaaac aaccttgata aatgccgcag aacttaattt ctgaaatttt tgcaaacatc 360
aatagcgcgc actcttcaaa tataaaacct tggagaagtc tgtatagcag ctcacatggt 420
cattcttaat tcacaccatg caattattca tccctttact tgcaagaact ttataactat 480
tctggttcac cgatgcagtt gttatctcaa cgtttcccat tgtatgatct ttgaaaatat 540
agataaagtt actcgtttgc acagtagctc catattctgc aaccttcaat tttggatact 600
gaaccacttg cacattccaa tcatgtcttt taacttcagt gtttaagagt atgcttagtt 660
ttacaaactt ttaaagtctt ccctagctgt aacggtcac 699

<210> 165
<211> 620
<212> DNA
<213> Pinus taeda

<400> 165
aggtgaccgt aaaataccat gagaaatgct ttcatcaggc accgctggta ggttttctta 60
agcttttcat taggcaaaag aggctccgtg agttgatcgt taattctctc cttgaatgcc 120
atattgacca gacactctga ttagaaactg gaatacaact gcacatatag tcattctata 180
tgattcatcc ttctgcactt cagcatcctg cggcaactct tcatcccgcc atactgagaa 240
aaattatttg actcttgatc atgtgtagat gaatcttcat gaatcttctc atcttcattc 300
ttgtctttat atctttagga agtgcatctg gtaaaagtat aaatgcatct tcacgggtgc 360
ttcagttttt gcatgctccc ggttcttctt gtttagcatg tggatctagc aaatcactaa 420
atgtagttct ctcaattggt ctggtggaaa ttctcctcaa ttcgagaatt acgaatcatc 480
atacctgagt aatatatgtt gccctgtaca tgcatatgct ggtttttggc tccaccattc 540
tccaaagggc tcaaaaacta tgcgacccct ggttgccgta gtggaaggtt atacattgcg 600
ttcccagtag ccacggtcac 620

<210> 166
<211> 439
<212> DNA
<213> Pinus taeda

<400> 166
aggtgaccgt ggaggggctc cacttatatg catagatgat gctgcgaggc tgtgttcatc 60
tggtccaatg gagaagggga agaccaagtg cctatcctga ttttggtgcc gcttgttctg 120
gtgtacagaa tatcaaccca gggtatgtac catcacttcg tgagacgttc acatttcccc 180
acttcttggt ggagctggtg gaaagcctgg aacttcatca atctatcgtt ggtgtgagga 240

tgatcaggct ctgtacttat atccacatgt agtgcagcag gtggtggaga tgtctctgat 300
aagttggggg ttgatactgg ttcgtatcat ttgcagtgat gttccccgc tgcccttaat 360
tgctattgat ccatcattaa ctataggttt ttactcgccc ggaataagac aatcttttga 420
cacttgttgc ttgggtcac 439

<210> 167
<211> 289
<212> DNA
<213> Pinus taeda

<400> 167
aggtgaccgt ggcgcctgac ctgtgcagaa tccattctca tggatacaat actgttaagt 60
ttgctttgct ttgcttgaag gatctgaatt gaaaaattgt ccccacaatt ctgtttcgtt 120
aaaaatgacc tcaatcactc tcgacagttt ccagatcttg attgggagcg tcctctcctc 180
tctcaagatg ttgttgacca aattcagggc gacttgtggc cagaaatcgt acattctgcc 240
atctacctgt tattgagctc cccgatttat atgcgctttt gacggtcac 289

<210> 168
<211> 314
<212> DNA
<213> Pinus taeda

<400> 168
aggtgaccgt caataccatt aaactgggga ttcgtctcaa caagtcaaca tgctaacctc 60
acagctccaa tcaaacaacg tccgtcgaag ggcgctcaca ctcatccaaa ttacttccct 120
ctgcaagact cacaaaatca gattcttcat gaattgctca aacgaggctg ttatggatga 180
tgcagctgat tactcaagtg acagcactct gaatccccgt cccatatata gcgacgcggc 240
gtttcagccg tgactggtcg caacagcctc agtgggacaa aaggccagaa gccccccaag 300
gttctcacgg tcag 314

<210> 169
<211> 242
<212> DNA
<213> Pinus taeda

<400> 169
aggtgaccgt gtcgatgttg ttagatgtga ttagggtttt atttcttgat acagatgcac 60
tgtttctctg tttattcttt tatttcttca atgtatgttg tcaaattata cttagtcaga 120
tctccttta tcgttcgtca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aagtttaaca 180
attaaaaggg gaaattaggc catatcagct tgtcgtatgg acccacatgc actgtaggtc 240
ac 242

<210> 170
<211> 195
<212> DNA
<213> Pinus taeda

<400> 170
aggtgaccgt atgcagagtc aaggtttagt tccttcagag cctgcccgag tagcactgag 60
gcagctcaag ccatttcacg taggaagccc acaacaaaat agaaatcaga gtgagtcttt 120
gatcgagtaa cccataagtt cttagctccc gttccatctt aacataagca tttttcttcg 180
tcttctcgca gccgt 195

<210> 171
<211> 217
<212> DNA
<213> Pinus taeda

<400> 171
attgcagagg acttagagag ggaaaaccgt tccgatctgg tgaagcaatt ggatgaagcg 60
ctctggaatt gattcccgtt tctgatgata tcgtacggct aagctcagct cttcaggcat 120
tggcagacaa tacgattctt caaatgagat gacagatttt aagaaactta taggatgaca 180
tatttcctag cttgaagcgg attcccccta cggtcac 217

<210> 172
<211> 381
<212> DNA
<213> Pinus taeda

<400> 172
aggtgaccgt ccgataaagg atgagaatat aggtagatca acccaaaaac actctcagaa 60
aacgattaaa gcctaacccc aagatcgttg agtaaattta acccggtaac ctccacataa 120
aatatactta gcaacaataa actcaacaac taaactatcc ctttaaaatt aaattatcct 180
tatttattta aaaaaacaaa tcctttatat actaaggtcc cctgcacatc tattactaag 240
gtaaaggaag ggaattatat gctatcattg taaactttga cttccgtatt tatgatcaga 300
ccatgagttt gataattaat tttacgctct ttactcccca ttcaaggcac gtgcctggtg 360
atatatgaac gccaaattat t 381

<210> 173
<211> 498
<212> DNA
<213> Pinus taeda

<400> 173
aggtgaccgt agaatacaat ctatgtatca aaatgctaac aaagagaatt tgttgtctag 60
cttgtaaata tacaaaagaa actctcacaa ggagtgagaa gcactaaggc ccttggaaag 120
aatacgtttc tattcagcgg agtgtatttt gagctacggc ttggcacaac tcatcctata 180
aaacaagact ctgtgagagg gcagagacct tgatcctggg cgtggcaagc cgggtgccta 240
ttgcggtaaa atcgagaagg gggaccctgg aaaagagagg ctgaaatttg tttcattctg 300
caactgaaac ctaaccggag gccgaatctg atcatttcta agacctttgg ggtcctgggc 360
atcccattaa aagaacgctg ctaactctcc cctccacaaa gggccaatgc gctcaggtcg 420
ggcttctcat cttcacattt cttgccgaaa tctatctgaa tttgttgtat tgaataacac 480
tgcctcctac acggtcac 498

<210> 174
<211> 604
<212> DNA
<213> Pinus taeda

<400> 174
aggtgaccgt gggcgccgtg gctcaaaagg ccctcgcaga cgcccgctcc atcaagctca 60
tgggcccccc ccaccctcgg ggggcaagcc gggaacgttg ctgtcagacg aggcgaggac 120
ctggaactgc cgttgaagga acggttctat attcagcccc tctcggcgga ccaggcgctg 180
cgagagccaa ggaatccgcg gaagcaaatc ctggaggtga aaaagctgat agataaaagg 240
cgtggccgta cgtccagaac gacctccgct ccaaggcttc ttaccttcgc tacgactcaa 300
caccgttatc tcctcaaagc ccaaggaaca gaaaaaaccc ctcaaaacct caccccaaag 360
ctttttgac acccttgaca aacctggact acgctgcaag gagccaagga taccccaagg 420
gcagaaaaaa tactttgcag aagctggtga accgccctta atgatgttca ttccaagctt 480

ggttaagctg tattgcactc attgttaacc acacttaacg ccaatccaat ctatgctgtg 540
ttgcatctcc acttcttagt taataacgtt ctgtgttccc aaactctgtg ccacacacgg 600
tcac 604

<210> 175
<211> 561
<212> DNA
<213> Pinus taeda

<400> 175
aggtgaccgt acaatacaaa taggtagttt atcacattgt agcttataga atgtacaatt 60
gaaatcaaat aaattcaacc aaactcaaat aatatgatca tgtgctcctc accttctcag 120
caaactcgta gagcagaaaa aaggattatg ttaaatcaca gttcacacat tagggtaaat 180
cccactaaat gacctctctt cattatccaa gtatctgaca ccaacatatt tcaaacaaat 240
agtgcaaaaa ggaatggtga agtaaaatag tcaaaactaa aaaataagct taaaatttct 300
cacatgtttg aatatgtgca ccacaaattt tgttagtgtc atcaaaatgc atgtaatcaa 360
cttgccgtgt atataatttc acacaatatc cgtaaaattt tgcaattcct tatgagcatt 420
tcatgtctag agattgcaat gacttggcta caaacatgtt tctctacaca agatcacaat 480
atttagtcag gacacgaatt gcaatgggga ttctcacaag catcacaagt catctcccat 540
gtactaaaaa attgtttaaa t 561

<210> 176
<211> 382
<212> DNA
<213> Pinus taeda

<400> 176
aggtgaccgt atagtgcata ttcagattgc aattacagac gtattagaac cagattttcg 60
cttcgataca gctcatcgag agcaacagag atccagatca aaaaccagac acagtttaag 120
aacatcgaaa taccaagccc agggacagtt accagcatat agctctacca ccaacagatt 180
attacagaac caaaacataa gaccacttgc agacaaaaat aaaccctaac gcagaacgtg 240
gcaactatct cctccagcta ccaccatcgg aaccaccacc accatagcga gaaccccacc 300
accaccatag ccgccaccgc caccaccata accaccacca ccaccaccac tgtaccgcca 360
ctaccgccat aaccacggtc ac 382

<210> 177
<211> 196
<212> DNA
<213> Pinus taeda

<400> 177
aggtgaccgt ccttggagat accagcttca aaacctccag tggtggagtc gatgatcaaa 60
ctgcacagtc agcctgagat gttccagtaa tcatgttctt gataaaatca cgatggccgg 120
ggcatcaatc acagtgcagt agtatttagt tgtctcaaac ttccagagtg caatatcatt 180
gtgataccac ggtcac 196

<210> 178
<211> 141
<212> DNA
<213> Pinus taeda

<400> 178
aggtgaccgt atagtaggaa ctttaggtgc tttggtggca ctctccaatt ttcatgtcct 60
tacatacccc actacggaga agggtagccc aagatttgaa cccaagactt ccggttcgtg 120

agacttcatt tccacggtca c 141

<210> 179
<211> 478
<212> DNA
<213> Pinus taeda

<400> 179
aggtgaccgt aagatcaaga gcacagaaag cagccatagc cccgcccatt gaatgcccat 60
aacaataatc tgtaacccat ctctctgttt ctgagctttc tgaactgctt ctacaacagt 120
ggtcgtaagg ttgtgttgtg ataagcagag taaaatccat aatgtaccat tgcaccagca 180
tattaggata gttgagatca agtgtcttac agaataaatc ctccacccaa ttctgtagct 240
cctttcttga gtacccctga atgcaattac aattgcattg atatcttctg ccacaccaca 300
aaagcctgaa ggcagtgttg tacatcaact ataagctcta ccacctgaaa accccagtca 360
aaccattgca cctagaacaa gtccaagaca ttagagcact caaatcatcc ataagaccgc 420
agaagcatat tgcacaagta tctcagcaag tgttcgatta tagacatggc caggtcac 478

<210> 180
<211> 381
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (58)
<223> a, t, c, g, other or unknown

<400> 180
aggtgaccgt gggaggggag atttttgatt tatatttcca atataaaaga aaatctangt 60
tgtaaggaca tggcaagagc tcttatttcc ggggttttag ccgtggcccg gagcggatga 120
aagcaaatgt aagtcactcc gtgctttctc ggcatttgga cgcttctact ctaccgcact 180
acagacggga ttgaacctcg catctctgag tgtttggtcg tttacatggc ggacttgttc 240
cgcacctctg cggacgtcaa atgccgcgac gataatccct ttgagaacag cgatacggca 300
gaaagatcgc cgttgacgaa gcgagaaaac tattgagact tgcagatgtg gagctgaaga 360
agagcttgag tcgacggtca c 381

<210> 181
<211> 521
<212> DNA
<213> Pinus taeda

<400> 181
aggtgaccgt ccgttcgggg tgtattgtcg aacacgtagg atggtgctac gttgaaacca 60
ccgttacctt cttcgatatg ttatagttcg agttcatacg gagggaatac cgtttgtagt 120
gttattcagc acaaccccgt cctgattaaa caccccgca accaaggacg tattcgacgt 180
tcggtattgt ttgacacact caagttataa ccctgaatag gcgctacccg aagtaagcat 240
tgtaccagtc gttatttttg ccttcgtatt gcgaaggatt ttgaaatata tccggacagg 300
ctgcaaccga tcttcataaa actctttctt aaactgagca aactgaacag cattagcatt 360
ttgacccgac ctttcatcgg cacctgctgc acacccgcat acgtattaaa gctatgttcg 420
tctggccagg tttgcctttt ttggttgtaa tcaggacaac gccgttagcc gcccgcgatc 480
cgtagagcga cgtagaaagc cgcatctttc agcacggtca c 521

<210> 182
<211> 307

<212> DNA
<213> Pinus taeda

<400> 182
aggtgaccgt gaaatatgtg ggagatgata tgtggtttcc tgaatattca cctcttgtgt 60
agaaaagtga gatccttaag atgttttgct aataagactc ttaggaatgt tggacccctt 120
tcagaatgcc atttgaatag attcaaggtg gtagctgttg cctggggctg ttttagggtt 180
ttaggccatg ctctgtaatt tcattgagtc aaaattggat taactggtgt cttttacctc 240
ataatagcta ctgcagtatt tgtcgatata gcttccctat ttattgactc tccttaggta 300
cggtcac 307

<210> 183
<211> 519
<212> DNA
<213> Pinus taeda

<400> 183
aggtgaccgt ccgttcgggg tgtattgtcg aacacgtagg atggtgctac gttgaaacca 60
ccgttacctt cttcgatatg ttatagttcg agttcatacg gagggaatac cgtttgtagt 120
gttattcagc acaaccccgt cctgattaaa cacccccgca accaaggacg tattcgacgt 180
tcggtattgt ttgacacact caagttataa ctctgaatag gcgctacccg aagtaagcat 240
tgtaccaagt cgttattttt gccttcgtac tgcgaaggat tttgaaatat atccgcacag 300
gctgcaactg atcttcgtaa aactctttct taaactgagc aaactgaaca gcatcagcat 360
tttgacccga cctttcatcg gcacctgctg cacacccgca tacgtattaa agcaatgttc 420
gtctggccag gtttgccttt tttggttgta acaggacaac gccgttagcc gccgcgatcc 480
gtagagcgac gtagaagccg catctttcag cacggtcac 519

<210> 184
<211> 629
<212> DNA
<213> Pinus taeda

<400> 184
aggtgaccgt cgtcagaaaa aacgtgattt ccgcaaactt tggatcactc gtatcaatgg 60
gcagctcgtt tgaacggact ttcatactca caattgatgc atggtttgaa gttggctgaa 120
tcgaagtgaa ccgtaaaatg ttggctgact tggctgttaa cgatgcagca gctttcaaac 180
tcttgcagac gcagctaaag ctaagcttgg gtaaataatt aaaaaaagaa ccgaggtttc 240
cttggttctt ttttataact tttaatgaaa agtatgaaga gagaaacagc ctgtcttcta 300
cttatagtat aagataaaag cttgttactg ataagacagc tttcatggta aagcagttaa 360
aaatagggat ttgcgatata atagaaaaaa cagacgttta tgtaaataaa aaacagtaga 420
atggagaaat tatgtcagag aatcgtttgg cttgggatca gtattttgcg gccaggctct 480
cttaatcgct aatcgctcaa cctgtaagcg agccaaaggt ggctccgtat tgtcaaggat 540
aataagggtt atttcaactg ggtacaatgg ctcagtttca gggactggag actgtattga 600
ccaaggagtg cctggtcatt gacggtcac 629

<210> 185
<211> 413
<212> DNA
<213> Pinus taeda

<400> 185
aggtgaccgt ggcggaggtt agggaagttt gacttctcat tttctcacgc actcctctcc 60
tcgtaacctc ggtcgagtcg atggcggctt tttagtcgag tgtgctaacg caccctccgg 120
cctcaaaatt tccagctact cgtatttgat caatgctgaa atcgcgtaat tacgtagtaa 180
taaagcgtaa tgaattctat aatgaagcat gtttctctat agttcatgtg ccgagaggaa 240

taatgaaaat gaggccttat atattatctg gggctcaagg agatgttatc ttttccttcc 300
ttggttagag accgtcaacc ttcacttgat tggataaagc ttcattttgt taaaacctcc 360
aagccagtag atacatacgg taggcacgta ttatggtaga gacatacggt cac 413

<210> 186
<211> 397
<212> DNA
<213> Pinus taeda

<400> 186
aggtgaccgt cctgttgcct aaccgcgaat ccaaatcgac ttgggctgct tcctttcgtg 60
cagatatttc tggtttggac tctagttctt gctcctggaa atcatgcttg agtgctgggt 120
agctgcctcc aagtttggtt gacaggccca ttccttacag cttctctctt ccgcttatga 180
cagagtaatg acaggaattc aacctgacgg atccgtctag ctctcacaag gttgggaccc 240
tgtcttcgag agggttattt cttgagactg ttgactatat tttggatgag ccctcagctc 300
tgtgtactat tgttcatgta ctggatactt tgtaaatgat tttattctgg ttttaccccg 360
gggggggcat tttgactcct gggtttaata cggtcac 397

<210> 187
<211> 467
<212> DNA
<213> Pinus taeda

<400> 187
aggtgaccgt ggaacatgat gattagttct tctgtgggcc aggatgatta gttctctgtg 60
tgactgtggg ccaggatgat tagttctcct gtgacgactg ttggatagga tgattcgtct 120
cctgtggaca ggatgattag ttctcctgtc gaggcaccct acccatgcaa tttgggatca 180
tgggaagtac ctctcatctg atcaatgagt agggaaatgg ggttagggac cattagagta 240
ctatcgatgg acacatcgtt gtatctaccg tcctatgcta ggacgacctc cattgtttgg 300
gattagtgag agtggtatga cactctgaga ctgactttgg gtcagtggag gatgtatgat 360
acatcctcga tcatttcttc ttcttcatag ttcgagcaga gcagagcaca acaggccaag 420
tagtgcaggg tagtgcattt gatggctggg atagtagcga cggtcac 467

<210> 188
<211> 555
<212> DNA
<213> Pinus taeda

<400> 188
aggtgaccgt aaataagatg acccacatgg agtttggccc tagtttccaa ttttaacacc 60
gctctcaact agggagaact ccattcgctg atccatttgt ccgactatac tatctctgca 120
tcagtgccct acactactct gcactgctct gctctactaa accatgaaga agaagaatga 180
ccgagaatgt ctcatgccat tctctattga cctgaagtta gtcctatatg aagagatgtg 240
tcatatcact cttattgacc caaagtcagt tttattgatc ccagatcaat atcacagaga 300
gtgtctcaaa ccactcatac tgatcccaga tcagtttcat tgatcccata tcaaggagat 360
catcctagaa tagggagtac agtagataca atgatgcatc catcaatagt actctatggt 420
ccctaacccc atttccctgc tcattgatca gatgagaggt acttccgatg agcccacact 480
gcatgggtag gatgcctcga catgagaaat aatcatccta tccacaggag acgaatcctc 540
ctgtcccacg gtcac 555

<210> 189
<211> 695
<212> DNA
<213> Pinus taeda

<400> 189
ctagggaaga ctttaaaagt ttgtaaaact aagcatagct cttaaacact gaagttaaag 60
acatgattgg aatgtgcaag tggttcagta tccaaatatt gaaggttgca gaatatgggc 120
tactgtgcaa acgagtaact ttatctatat tttcacaaga tcatacaatg ggaaacgtga 180
gataacaact gcatcggtga accagaatag ttataaaagt tcttgcaagt aaagggtgaa 240
taattgcatg gtgtgaatta agaatgacca tgtagagctg ctatacagac ttctcaaggt 300
tttatatttg aggagtgcgc gctattgatg ttgtgcaaaa atttcagaaa ttaattctgc 360
ggcatttatc aaggttgttt gagccattta aatagcaagt ttttgtttct ccagtacttt 420
caggaaagca ggttagacga taaaatgcat cttcccaatt tactatattt ctgttttaaa 480
agattctctc aatgtcctta gcacgtggct ttcattattg ggaccaatga agatgtgtag 540
cagaggcatt acgttatgga atctctcacc aagaacactg ttttgggctt tagatagctc 600
ctagttataa atgctccagt gacaaacaca tcctaagttt ggggcaatta atgacgcctt 660
ttggtcattc tcctttgggt ttcaggcacg gtcac 695

<210> 190
<211> 144
<212> DNA
<213> Pinus taeda

<400> 190
tccctttagt gagggttaat agatctatag tgtcacctaa atcgcggccg ctctagaaca 60
gtggatccgc aagcaggata gacggcatat gcattggatg ctgagaattc gatatcaact 120
tatcgatacc gtcgacctcg aggg 144

<210> 191
<211> 185
<212> DNA
<213> Pinus taeda

<400> 191
ggtgcgatcc taaacatgca agctttgagt ttgtaacttt gtagaagtgg acatttctaa 60
gttggatgta caaatctact gttggttgta ttgtcatccc ataaacaact gtttgatgag 120
atgttttttt aaaaaccaca tcataatatt tttaggcctt gtaaaaaaaa aaaaaaaaaa 180
aaaaa 185

<210> 192
<211> 167
<212> DNA
<213> Pinus taeda

<400> 192
attccaaact tttctttcaa gatgtacacc aacatcattg tccccaactt agtagacttg 60
acttttcacc aggtccaaag agaggggtgg tggaagcaga tttcaggctt tcgaataagt 120
atcaatgata taagcatcat ccccttgcca attgttctgg atcgcac 167

<210> 193
<211> 167
<212> DNA
<213> Pinus taeda

<400> 193
ggtgcgatcc catcaggggt tgtgtttcta agaatcactt ccatgtttca aattcagcac 60
ttgatcttgt acatacccaa tttgttgcct gctactagct agtattgtct ttcagtttga 120

accatttttt tgagtaaatc gtgtttagtc tttggcaaaa aaaaaaa 167

<210> 194
<211> 470
<212> DNA
<213> Pinus taeda

<400> 194
ggtgcgatcc gcattagaga agcatacagg aaaaagaagt acctgcctct tgatttgcgc 60
ccaagaagac tcgtgctatc aggcgacgcc ttaccaagca tcaggcatca ttgaagacga 120
gagacagaaa aagaaagaga tgtattttcc aatgagaaag tatgcagtca aggtgtaagc 180
cacaggattt gagctttcat gcaatttttt tgttacttgc gggatgatat tgcctatata 240
tttccgtcca cgtttttggc aaattccgat ttgcatcaga attcaagtta tgatagtgtt 300
ctttcgcttt tgagcagttg atattgttta tcttttattt ctcttgaatt gcaacatatt 360
ctaatgcaat gagtggatta ttatattgtg gtatttccat gttgaactca tataaatgag 420
cgtaatttga gtggtagcgc taggatattt acacttggca aaaaaaaaaa 470

<210> 195
<211> 289
<212> DNA
<213> Pinus taeda

<400> 195
ggtgcgatcc gtataggtag tttggatgat gaacgggcaa agaaggcaaa ggagtacagg 60
atggatcctg taattcctgt ttcagaaaac agaaaatctg caatataagg atggctaact 120
tttcagctat gaaaatatat ggtgcagtgg cactcatatc agttgcagag ttgtcaaata 180
acttttgtga ataggaaagt tgtcctcttt tagagtgcag aaatcctgca atataagatg 240
gctaagtttt tcagctatat gaaaatatat ggtgcagcaa aaaaaaaaa 289

<210> 196
<211> 321
<212> DNA
<213> Pinus taeda

<400> 196
ggtgcgatcc catatacaat tacatatatt ttcaacaatt cttttgttgt tatgaaaatc 60
tattgaaata aattgaaata gtttgcatca tttatttatc ggaattcgta tttatatatt 120
aaatttctga tgtctcaaat ccttcgttac tgtaacgata tcattaatat aatgtgtctg 180
caagtttatt gggcaaaaca aaatttattt ttcggtcaca tcataagttt atttttggtc 240
acatcatatg caccatcaca ttaagcataa gcatatacag tagcgtaaaa atacaattat 300
tgttgttgac taggatcgca c 321

<210> 197
<211> 188
<212> DNA
<213> Pinus taeda

<400> 197
ggtgcgatcc tagtcaacaa caataatatg tatttttacg ctactgtata tgcttatgct 60
aatgtgatgg tgcatatgat gtgaccaaaa aataaactta tgatgtgacc gaaaaataat 120
tttgttttgt ccaattagac ttgctgtata tgtctggagt cctacccttg aaaattgact 180
tgtttccc 188

<210> 198
<211> 145
<212> DNA
<213> Pinus taeda

<400> 198
ggtgcgatcc catatacaat tacttatatt ttcaacaatt cttttgttgt tatgaaaatc 60
tattgaaata aattgaaata gtttgcatca tttatttatc ggaattcgta tttatatatt 120
aaatttctga tgtctcaaat ccttc 145

<210> 199
<211> 151
<212> DNA
<213> Pinus taeda

<400> 199
ccactgcacc atatattttc atatagctga aaaacttagc catccttata ttgcagattt 60
ctgttttctg aaacaggaat tacaggatcc atcactgtac tcctttgcct tctttgccgt 120
tcatcatcca aactacctat acggatcgca c 151

<210> 200
<211> 254
<212> DNA
<213> Pinus taeda

<400> 200
agagccttct tgcagacaat ccgtgaaaac atggctatac aataaaaatt cccagtttga 60
attctaaaga aaactgttca atatttgaag gcctctgata tcacagagac tgatattaaa 120
tggaaattca tacaaatgag gagagcatgt agcaacacta gaagctttgg cataaagcac 180
cagataaatt cataagaact aaatccataa gaaggatctc tcgttcacca gtcacaatca 240
cactcggatc gcac 254

<210> 201
<211> 363
<212> DNA
<213> Pinus taeda

<400> 201
ggtgcgatcc ctggccctga taactttggt tgcaatggaa aatgcagtac taggtgcgaa 60
atgctaaagc ccgcccggag cggtgcatga agtactgcaa tatttgttgt agtaaatggc 120
tggttgtgtt cccagtggtc actatggcaa caaggacgag tgcccctgct acagagaatg 180
aagtccgcag ccggcaagcc caagtgtccc tgatcttagc acttcagtcc agtcgccact 240
tcttttattc tctttttta taaaagtgac gaggccgttt ttcttgtgct tggtgccata 300
tgtagagcgg tggctacttc tcctgtgtta ggaaatgttg cagtactaat aatagaactt 360
ctt 363

<210> 202
<211> 162
<212> DNA
<213> Pinus taeda

<400> 202
ggtgcgatcc aataaagata tactttgcaa caataatcaa aatatcatta tgcaaagttt 60
aagatcaaaa tagaatgcaa caaaaaaatg gttgtaacat aggaaccaac aatgttgcat 120

tcaagtaaga ctctttgcaa aaaaaaaaaa taaaaaaaaa aa 162

<210> 203
<211> 355
<212> DNA
<213> Pinus taeda

<400> 203
ggtgcgatcc acaagtaaga taattgagta tatattcaag atgcaaatat ttcattagga 60
ccactcataa agttatcaat gattcacaaa gagacctcct gacctctctc aaaagtggtg 120
gcaacacaag actagtgtag tttttactat acctcaatga aactaccatc ctaactgatg 180
ccataatctt ctgttatata ttaccaaaat ttatgagatg attgatccat aaacactcca 240
gaacacatag tcatccaaag gaacctttgc ttgaatatgg acccccttaa ttcaggtact 300
tgctactcca ataaattgct taatctctcc accgataacc acagtttgga tcgcc 355

<210> 204
<211> 297
<212> DNA
<213> Pinus taeda

<400> 204
ggtgcgatcc aggacatgag gccgagtttg ccattgtgat atgattgagg aagtccagtc 60
tcaaaattag gtttatcttg atgtttgaca agaaatatag aagggcatga tgaatcaaga 120
acctttttcca aatctgttac tgcaaccaat ccaatgacat aataacgcca atggttggtt 180
cctgtgatga cataataaat tggattaaat taataacatc cctaatgcca tgtggttagc 240
tgcatcatca ccgtatccat cgagtgttca atttttggga tgtatgtatc aaaaaaa 297

<210> 205
<211> 337
<212> DNA
<213> Pinus taeda

<400> 205
aaatattttt caatacaacg ccatgtgaca tttttgtgct tcttgttttt gatacatact 60
tccaaaaact gaacactcga tggatacggt gatgatgcag ctacagccat tgcattacga 120
tgttactaaa ttaaatcaat ttattatgtc atcacacgaa cccaaacaat agcgctatat 180
gtcattagaa tggttgcagt tacagatctg gaaacagatc aatgaatcat catgccctct 240
atatctcttg tcaaacatca agataaacct aattttgagg actggacttc ctcaacatat 300
cacaatggca aactcggcct catgtcctgg atcgcac 337

<210> 206
<211> 344
<212> DNA
<213> Pinus taeda

<400> 206
ggtgcgatcc gtataggtag tttggatgat gaacgggcaa agaaggcaaa ggagtacagg 60
atggatcctg taattcctgt ttcagaaaac agaaaatctg caatataagg atggctaact 120
tttcagctat gaaaatatat ggtgcagtgg cactcatatc agttgcagag ttgtgaaata 180
acttttgtga ataggaaagt tttcctgttt tagaatgcag aaatcctgca atataagatg 240
gctaagtttt tcagctatat gaaaatatat ggtgcagcag agttgtcaat ataaacttgt 300
gaatagggaa gttttggcaa aaaaaaaaaa aagaaaaaaa aaaa 344

<210> 207
<211> 349
<212> DNA
<213> Pinus taeda

<400> 207
ggtgcgatcc tcgttgtgaa gacgtagtga tggaaaggtc atgtttgtag gagacataat 60
tataggagtt tctttattat aataaccaag aagtccgatc ctgggggcgt tgagtatata 120
gtcagtcttt ggtaatttgg tgtggtgctg tttgacctgc ctttcctttg gagcaatgat 180
ccttgaggat ggaagaggtt atgttgaggc tcaagagatg attgtttgag ttgtggaaag 240
caaaaggttt ccagatgtag tcagatagta acttctatgc ttttaataaa atttagtctg 300
tggggcatgc ccctttttgc tggcaaaaaa aaaaaagaaa aaaaaaaaa 349

<210> 208
<211> 317
<212> DNA
<213> Pinus taeda

<400> 208
ggtgcgatcc gtataggtag tttggatgat gaacgggcaa agaaggcaaa ggagtacagt 60
gatggatcct gtaattcctg tttcagaaaa cagaaaatct gcaatataag gatggctaag 120
cttttcagct atgaaaatat atggtgcagt ggcactcata tcagttgcag agttgtgaat 180
ataacttttg tgaataggaa agttttcctg ttttagaatg cagaaatcct gcaatataag 240
gatggctaag tttttcagct atatgaaaat atatggtgca gcagagttgg aaaaaaaaaa 300
aaaaaaaaaa aaaaaaa 317

<210> 209
<211> 389
<212> DNA
<213> Pinus taeda

<400> 209
ggtgcgatcc caggagaata ttagtttcat gtgttgctat cattttcttc aatatgcagg 60
gcaaccattt gaatgaaact attcctttcg aatttcaaaa acttaatagg ctaacttatc 120
tatctggagc cgattttcat tgacgagtaa cctgtaagct ggccagcaaa agccaacaga 180
tgttcagctt gttggaacca gttgaagatt gtaatagaga tggtgaataa tcgcggacgg 240
ctcggccaat ggaatatttg ttgcatcatc atcaaggggg tatgaattcc aaagaacttg 300
ttgattgaaa ttcccaagca aaattctgtg aaatgaaaaa tttattgaga ccattgggca 360
aaaaaaaaaa aaaataaaaa aaaaaaaaa 389

<210> 210
<211> 242
<212> DNA
<213> Pinus taeda

<400> 210
ggtgcgatcc gactgtgata tgtgactggt gaacgagaga tccttcttat gaattaatct 60
ggtatcttta tgcgaaagct tctagggttg ctacatgctt ccattctaat atcagtctct 120
gtgatatcag aggccttcaa atattgaaca gttttcttta gaattccaaa ctgggaattt 180
ttattgtata gccatgtttt cacggattgt ctgcaagaag gctctttggc aaaaaaaaaa 240
aa 242

<210> 211
<211> 319

<212> DNA
<213> Pinus taeda

<400> 211
ttttttttatt ttttttttt ccaacgagat cactgtcatt gttcaataac tatatgccaa 60
agagccttct tgcagacaat ccgtgaaaac atggctatac aataaaaatt cccagtttgg 120
aattctaaag aaaactgttc aatatttgaa ggcctctgat atcccagaga ctgatattag 180
aatggaaatt catacaaatg aggagagcat gtagcaacac tagaagcttt ggcataaaga 240
caccagataa attcataaga actaaatcca taagaaggat ctctcgttca ccagtcacat 300
atcatactcg gatcgcacc 319

<210> 212
<211> 271
<212> DNA
<213> Pinus taeda

<400> 212
ggtgcgatcc gactgtgata tgtggctggt gaacgagaga tccttcttat gaattaatct 60
ggtatcttta tgcgaaagct tttagggttg ctacatgctc tcctcttttg tatgaatttc 120
cattctaata tcagtctctg tgatatcaga ggccttcaaa tattgaacag ttttatttag 180
aattccaaac tgggaattta ttgtatagca atgttttcac ggattgtctg caagaaggct 240
ctttggaaaa aaaaaaaata aaaaaaaaaa a 271

<210> 213
<211> 30
<212> DNA
<213> Pinus taeda

<400> 213
tcccaaaggc aattatacat ggatcgcacc 30

<210> 214
<211> 517
<212> DNA
<213> Pinus taeda

<400> 214
ggtgcgatcc ccactgcaga aagatgagcc agtaccctga aattttgctg ttgtccatgc 60
ctgggtcacg gaggaaagaa cggcacggtg caatatgatt ttgctacata caagttccaa 120
gagtggatgc agacagtgct ggccatggct gattatttgc aggtgactaa tgctcttttg 180
gttatcctta ccatcatcat cttcctgcca ttcttttgta cctcggtatg gagacgaaca 240
cccacttttc aaagtttgca gaggaagcat gtattcataa caggaggatc aagcggcatt 300
ggccttgaga ttgccaaaga ggctctttca cagggttctt acgtgacact ggcgtcaaga 360
aatctttcta aacttcgtag ggctgttgaa gaaatcatcc aagaagtgga gtgcgacgga 420
gacaagatta atatcaaggt aatataccct gcaaaatgtt gtctggaata caatccaaaa 480
ccaatttagc aattaaccca ttggcaaaaa aaaaaaa 517

<210> 215
<211> 734
<212> DNA
<213> Pinus taeda

<400> 215
ggtgcgatcc aagtgcggta ttcttccttt ggcagttctc tgaactgttg agagaatttg 60

agtaggataa cgacaataat tactatgctc acaagcccag acaacacgaa tagactccct 120
tccgtgcgtc gccttccaga ggacgcagca gctaaaatct cggcctgact caccacatat 180
atatttaata gcttgtatat gccatatgaa ctgttagcat gatctccctc taactgcgaa 240
ttgtgttgct gtaaactaat cccaaaggat gtttactctg ttgcttttcc aactgctgat 300
ggatttcgct catacaatga cccgagagca ccataaacct acccagcgtt gtggcctatg 360
acccatagct ttttgttcgc acagcaattg aagaccggct acaggagatg actaatgcac 420
ttccgagaag gtttcaccgc gaatgacagg gaaggacaag gcagagcagc aggccaagac 480
agctttagtc gcagaagttc aagcagatct agattcatag taaatggaag ttctacacta 540
gttacaaatt taaaaacgta cctgcatgga ctacacggtt tatttacgag tgccacttgt 600
ctcattgttt tccatcagat gtctgctgga ttgtggtagt gtgttctacc gtatcggtgc 660
gggttttgta tattgtgcgt cgacagagtg acaggtggtg attttactgg caaaaaaaaa 720
aaacaaaaaa aaaa 734

<210> 216
<211> 664
<212> DNA
<213> Pinus taeda

<400> 216
ggtgcgatcc tagtacaggc gtttggaaca gagtggagaa tatgtggagt attgggggat 60
gccccggtc gtgtgttgct gcgtttggga atttgtattt cttccatagg caacaagtga 120
tgtcttataa tagtaaagag aatgtttggg aagtggtggc atctcttcct ggagacatga 180
atattgttac tttgcgcaac agtgtggtgt gacaagatat ttgtgagcgg ttgtgcttgc 240
agtggcggcg atcaggtgtg ttacatgctg gacaaatctt gggcgtgggc tcctattgag 300
aggtcacatg agtttgaggg ttttgctcag tctgcaataa ctgtagagat atgagcaaat 360
tctgttgggt tcacttaatt ttgggattat tatagtgcag aggggagccg ggaagtttca 420
gtgtacagtg atgggcacca catgttgcca gcattggggg tgccctgtga atatgatttc 480
tataagtccg gattttaaat atctaggcca tctatctcat ccagcctctg attgtgtctg 540
tactaaatat atcctgtata ttcgtgatcc ctggttttga agtgagcaag ttttagtgga 600
agaggatttt tattaaatat atataaagtt tctgtattca gggttttggc aaaaaaaaaa 660
aaaa 664

<210> 217
<211> 422
<212> DNA
<213> Pinus taeda

<400> 217
ggtgcaatcc gccataagag aggcatacag gaaaaagaag tacctgcctc ttgatttgcg 60
tcccaagaag actcgtgcta tcaggtgacg ccttaccaag catcaggcat cattgaagac 120
tgagagacag aaaaagaaag agatgtattt tccaatgaga aagtatgcag tcaaggtgta 180
aagccatagg atttgagctt tcatgcaatt tttttgttac ttgcgggatg atattgccta 240
ttatatttcc gtccacgttt ttggcaaatt ccgatttgca tcagaattca agttatgata 300
ggtgttcttt cgcttttgag cagttgatat tgtttatctt tatttctctt gaattgcgaa 360
catattctaa tgcaatgagt ggattattat attgtggcaa aaaaaaaaaa aaaaaaaaaa 420
aa 422

<210> 218
<211> 239
<212> DNA
<213> Pinus taeda

<400> 218
gcggacgcct caggatagcg ttagggttgc cttaggatag cgttagctct gccttctaag 60
gttgccgtct tatcctccag cgtctagggc ttccactcct aggatttctc ttccactaaa 120

acccaagaca agtggagaga aatcaagata gaagtgtgtg tgaaatgact cttaagtcat 180
ctccttttag actaaaacat tgagcacatg tggggtttat ttggttgctg gccgtcgtt 239

<210> 219
<211> 303
<212> DNA
<213> Pinus taeda

<400> 219
ggtgcgatcc tgaaacaaca tattcccgat ggctcttccg aaggaaccat tgctctactg 60
tgtggccctc cccccatgat ccaagatgcc tgcctaccta acctggccaa aatgaattat 120
gacattcaga attcgtgttt tcagttctaa ttacaccctt ctggttaatc aaattgggac 180
atcccctccc acatcctgtt attaattaag ccatagtcta gtgtataaaa tctgttgatg 240
tgtacagcat caagttaatt tcctcctttt ctgtcaaaaa aaaaaaaaaa taaaaaaaaa 300
aaa 303

<210> 220
<211> 273
<212> DNA
<213> Pinus taeda

<400> 220
ggtgcgatcc gatcctaagc gggtgcatat atataatgac aagctgtagt aactaactct 60
tgtcatgagg ccattgctaa catagcctgt ccaatgcaca tagcagtcaa aaaaagcaaa 120
tagccgccat gttcccatac acgaagtaag taccctccct attgagtcac cttacccgcc 180
gagagagatc ccaattccat gtattcggtt aagtaagccc tgccagctat gtcccaccca 240
tgaaagaaag tactgatccg agtggatcgc acc 273

<210> 221
<211> 364
<212> DNA
<213> Pinus taeda

<400> 221
ggtgcgatcc aaactgtggt tatcggtgga gagattaagc aatttattgg agtagcaagt 60
acgctgaatt aaggggtcc atattcaagc aaaggttcct ttggatgact atgtgttctg 120
gaagtgttta tggatcaatc atctcataaa ttttggtaat atataacaga agattatggc 180
atccagttag gatggtagtt tcattgaggt atagtaaaaa ctacactaag tcttgtgttg 240
ccacccactt ttgagagagg tcaggaggtc tctttgtgaa tcattgataa ctttatgagt 300
ggtacctaat gaaatatttg catcttgaat atatactcaa ttgatcttac ttgtggatcg 360
cacc 364

<210> 222
<211> 357
<212> DNA
<213> Pinus taeda

<400> 222
caatctgtct gcaattgata ttattgcatc cagtaaacca gatacacatt caccacaaca 60
ttagagactc tagaagttcc tttggcgaca ggcaaaactc atgattacag ataattggag 120
tttcctctaa ccagagtcaa acgatctaaa gggatttgtc tagtcctcca ttccctcatt 180
caatgaggcg atggcttatg ccgtgacaac agtttctata gttgcatccg ctcctcttga 240
tcccacaaca tttttggtgt tctctgcatc ttcttcctcc catatctctg gcagggcttc 300
tctaatgttg tgaatacttg caagggcaaa atctgctccc tctgttcgga tcgcacc 357

<210> 223
<211> 222
<212> DNA
<213> Pinus taeda

<400> 223
ggtgcgatcc tctcagttac gagctcaatt tcgaccaggg gtctcggcaa attgaggatc 60
atgagaagca gggtatgccc ttgaatgccc tgaagccagg ggagtctcag ggcaatcacg 120
aatgaaacct gacaaaccct aagaaaaccc ctagagcgtg ccctgcagaa agggaattct 180
ttttgaggcc ggcggtcttt ctgtcgtctt ctcgcagccg ta 222

<210> 224
<211> 225
<212> DNA
<213> Pinus taeda

<400> 224
ggtgcgatcc agcaagagaa cgaaaaaggt atgagaatct atgaaatatt tgtacatcac 60
tgtattcata tgagggcctt tttttacaat gcggtagggt tgtttggaga attagaacct 120
gattaaaatg tagatggatt caagctttta gtgaaatgag gctcggaacg caagtatgct 180
gtccactttg agactcattc ttctatagta tctgaagcca aagcc 225

<210> 225
<211> 415
<212> DNA
<213> Pinus taeda

<400> 225
ggtgcgatcc catgggatag ttgcaaaaca cacaaatttg ttgtgaaaga agagagacac 60
gcacagacaa ccatatgatc ttttttttttt ttttttttttt ttttttttttt ttttttttttt 120
ttttcacaac tctgctgcac catatatttt catatagctg aaaaacttag ccatccttat 180
attgcaggat ttccgcattc taaaacagga aaactttcct attcacaaaa gttatattca 240
caactctgca actgatatga gtgccactgc accatatatt ttcatagctg aaaagcttag 300
ccagccttat attgcagatt ttctgttttc tgaaacagga attacaggat ccatcactgt 360
actcctttgc cttccttgcc cgttcatcat ccaaactact atacggatcg cacca 415

<210> 226
<211> 229
<212> DNA
<213> Pinus taeda

<400> 226
ggtgcgatcc tgcgagagcc gagggttcat tttcctttcg acaacgacgt tcagtggcga 60
ccagagtttc ccaatcactt cagcgattct attccttcgt tgtaataaag cttaaggaat 120
ccatgcttta ttccttggaa ggtttgaata tttatatttg ttggcattaa tgctatatac 180
atctatacta attttgggtt gttctaaact tgttttgaat aacttaaat 229

<210> 227
<211> 219
<212> DNA
<213> Pinus taeda

<400> 227
ggtgcgatcc atggcaaaga gctcgttcaa gcacgatcat cctccagaga gaagacaagc 60
tgaagcttct cggattcgag aaaagtatcc ggacaggatt ccggttattg tggagaaggc 120
tgagagaagt gagatacctg atattgataa aaagaaatat ttagtcccag cagatttgac 180
tgttgggcaa tttgtttatg ttgtccgaaa aaaaaaaaa 219

<210> 228
<211> 405
<212> DNA
<213> Pinus taeda

<400> 228
ggtgcgatcc cctgtattct tgaaagggtt ataacggaag atagcatttt gctcagattg 60
tagacagtct gcatgatttg tcaatactac tatttcgcat tatttgttaa tactactaat 120
ccttgtactc atctagacta tttaattatt aaattctaca gtttctttct cctagatggc 180
aaacaatatg aataaaatgc caatagtttt ggaactactc cattaagagc tttagatgat 240
tatcattcat catttgcctg ttttgaatcg taaatgaatg tgtcacggtc ttcttttctg 300
ttagtctcta tgctttcatc agaagagtct aagccagtta ctggaagcta tttgtcatct 360
ctttaaacat tgtttccgtg ccaaaaaaaa aaaaaaaaaa aaaaa 405

<210> 229
<211> 329
<212> DNA
<213> Pinus taeda

<400> 229
ggcagaactt ccaaagtcta gtatttgatt aactaatatg atgaagacac tcagtctata 60
acatgacgcc agaaatcaga ccatatgcat gataactagc acgattaaaa tacaattcgc 120
aacctttaat acactaaaaa cgtttactgt atagtccact cagaacattt cgatagtatt 180
gtcagatcga cttatttagc tcatattcag caatctgaac tgtacgatgc ggctcattca 240
agggcatttg ggtttgccct tggcattctt catatcccga tagcaaggac acgcgttctt 300
gttgccatat gtccctgggg gatcgcacc 329

<210> 230
<211> 354
<212> DNA
<213> Pinus taeda

<400> 230
ggtgcgatcc acattggcca ggccggtatt caggtcggca atgcctgttg ggagctttac 60
tgtctcgagc acgacattca gcctgatgga caaatgccaa gtgacaagac cgttggcggt 120
ggagatgatg cattcaacac atttttcagt gagacaggtg ccggtaagca tgttcctcgt 180
gccgtgtttc tggatctgga gccaactgtc attgatgaag ttcgaaccgg cacatatcgg 240
cagctttttc acccagagca gctgatcagt ggcaaagaag atgccgccaa caactttgct 300
cgtggccatt ataccattgg taaggaaatt gtggatctgt gcttggatcg cacc 354

<210> 231
<211> 271
<212> DNA
<213> Pinus taeda

<400> 231
ggtgcgatcc cagcattgga tgcatttcta gcacaaagcc atcttgacta aaatagcact 60
gcgggcaact gcagtccata actttcagag cattgttgct gcctcaattg tataccaatc 120

catattctaa aaattagacc tggaaaccag tcagaaattt aatgttttct tgcagaaaat 180
gccctttag aaaaaggaga gaataactgc attcaagttc taactcccag acatagcctg 240
gcaacgtcat tcattcagtt cggatcgcac c 271

<210> 232
<211> 370
<212> DNA
<213> Pinus taeda

<400> 232
ggtgcgatcc agaaaacagc acaagcaatc tgtaagacca atattattat catctctcac 60
tgctcgtgaa caaaatgctg gttcatagcc atcacgaagg ctaaggctac tatccagcca 120
aactgatctc caacaataat ttcataagct taaataaata gtccatccag tggatggagc 180
cagaaagcca tagaaacttc aaatacttgt ggtatcaatc tctcctctgt taagggaggt 240
atcagatcag aagcactaat caaatgcata cataaatgca gtagactgca ataaaacaaa 300
atctgcagat agcaactgag cgcttaacga acggaaaaga gtttaacttg atctatcaca 360
ggatcgcacc 370

<210> 233
<211> 328
<212> DNA
<213> Pinus taeda

<400> 233
gaaaatggga gcctcaaata ttcaaagcct catctcaaga gtctcagatt cggattcatt 60
tcatttggtt cgtaataaaa taatgcatca aatagttatt atccacaaaa atgggagaat 120
tattacaatc tgtcttctca acataaagtc atagcatagc atagaaccac accacagtcg 180
tcatcatttg ttttgttcac caccgaaggg gctctttaca gcgtccatga agccctgtgt 240
agcacccttc gccttgtccc ccgcctgttg gaagaaagag ccagtttgtt ctttcccctc 300
ttgggctttt cccgtgatgg atcgcacc 328

<210> 234
<211> 157
<212> DNA
<213> Pinus taeda

<400> 234
ggtgcgatcc tattatagaa ccatgactct tgtcgatggg gcataaactt ctcattctta 60
ggcgtgccta ctgtgactct tgccgatgtg gcataaactg cttattctta gttgtgcctt 120
ctgtgcagaa cttgttgagt cggtggatta cactgac 157

<210> 235
<211> 334
<212> DNA
<213> Pinus taeda

<400> 235
ggtgcgatcc attaactaga ttaacgataa cattcctctg catccaatcc aatgctcatc 60
taaatctact tctacttaga tctctgcctc atctttctcc acctcctcat ccattctgaa 120
atattaattt ctgcatagat tttgttaggg tctagtaatc attttcatga atttaaatct 180
gttctagtct cttattatta tgctgcttat gctagcatca gaacctgtgt ataattcatt 240
catgtatata ttggattaca caaattatac ggatgccaga aaaaaaaaaa aaaaaaaaaa 300
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 334

<210> 236
<211> 199
<212> DNA
<213> Pinus taeda

<400> 236
cttgaagctg atatgtttga acccgaaatt ttgttaccca actccagtgt acattgtgtc 60
actgtcaaag agaacatgag agctgcatgc aagcttttgc atgatagata gattactgat 120
caccgaacat ttcttactct actttcctct cctatcccca gtgatttttg ggcattttct 180
ataccccttcg gatcgcacc 199

<210> 237
<211> 220
<212> DNA
<213> Pinus taeda

<400> 237
ctcatgaaca gcaatatgat gcattcctct tatacacatt tcatatatgt tcacccttgc 60
cgtcatggct actctaagaa gagcaaaaca gacccattga atctttacac gcgcttgttt 120
atatgaatac aaataattta ggcgtttctt tacacgccct tgtttacatt aatacaagtg 180
atttaggcgt tgttaccaga atagtgccac ggatcgcacc 220

<210> 238
<211> 555
<212> DNA
<213> Pinus taeda

<400> 238
ggtgcgatcc caagatagaa aagggaacta tggtctcgag gagtgtcagg tgctacagat 60
cacaatatac ataagggtct gatagtagta ctcggcccaa tgtttgaggg ctctaactaa 120
ggaggatcaa ccgtaccctt agccgtaaaa cccgactacc ctatcgtacg ggcgagtaat 180
ctctctgagt gttgttctcg gtgtatcgta gcagcaacac ggctgacggt ttatctatgg 240
tgaggtttca aaggagctag ggggcttcca atatacccag agggtacttg gaagacagtt 300
tatacgcggt tctgtctaat gcgctactac tcgaaggggt acccacaggg gttacaagag 360
agtgcaacaa gcatgaccac cccttgtatt tcttgcatgt atgcctcccc aaatccgcag 420
gtttatgcgc tcattgacag attccgtggt ttaaagatgc cggaacatgt ctctagccaa 480
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 540
aaaaaaaaaa aaaaa 555

<210> 239
<211> 419
<212> DNA
<213> Pinus taeda

<400> 239
ggtgcgatcc tcctaacctg caatgtcctt cctgcaacct gcaattattc aacagaaatt 60
aggtttattt ttctttttgt cttttcttct ttttttttt ttttttttt ttttttttt 120
ttttttaagt aaacgaccat ttcaaacgcc atttcaaatg ctatgaatta atgttgaatt 180
aatgttagca ttaagtctta aacattttat gttaaggcat atatatcgtt ccaactactc 240
ttacaataca cctgcggtgt actcctgcca ccgcatgtac caccgttaca tgtacgcctg 300
ccagcacatc taacaggtgc caactccttt gaactcatcg tcgccatttt tgtatgcata 360
tttgaactca tcgtcgccat ttttggtatc ttcacatatg gccagtccag gatcgcacc 419

<210> 240
<211> 129
<212> DNA
<213> Pinus taeda

<400> 240
ggtgcgatcc aaggagtggg cgtgcaatgc gtcgaagata gccaccactg caggggcgtg 60
gcatgctgcc gtgcttccca cagggagatc aacacctgca cctccgcctc cttccgcggt 120
taccacgag 129

<210> 241
<211> 349
<212> DNA
<213> Pinus taeda

<400> 241
ggtgcgatcc agccacagaa agattggttt actcgataat tgaacggtag actttgtgca 60
ggtttagatt gtgtacatgc tgatcagtat tgtctacacc attttcaatc ttgtttagtt 120
ctatggtaat ttatgtaaca aattcagcga tgttggggaa attggtcaca tcagctttgt 180
gcctatatat ttcaagtaaa tcaggggatc cattaatact gcttttaaaa taattggggc 240
aaagttgtgg gatgactgct tcagcggaat acgtgctttt catagtgctg tatgacattt 300
tgttgaatat gaattttctt tgtgatacag ttgcgcgaaa aaaaaaaaa 349

<210> 242
<211> 316
<212> DNA
<213> Pinus taeda

<400> 242
ggtgcgatcc atgccaagag ggtgaccatc atgcccaagg acattcagct cgctcgccgc 60
atccgtggag agagggcata aacagtcagt cagatccaat ggtgtgtttt cacaccacca 120
tatgtttctt ttactaaatt tgttaggtcc cttcggtggg tcttttcttt cccccgattt 180
tagtattttg ttgttcttct gagtttcatc attgcaagta caagatgcag aattgatggt 240
tattgggact tggagactgg ttattgctat gtagagtatt tatattagac aggtttcact 300
tgaagatata aaattg 316

<210> 243
<211> 188
<212> DNA
<213> Pinus taeda

<400> 243
ggtgcgatcc tcatgtgtta taaccgaagt ttgcgggatt cagatggtca gtatcttaaa 60
tgtccaactt tcggtacgaa tggggtgcgt tctgaaacgt gccacgaaag aggtgttcag 120
gatctgtctg aggcatcttt ccggtatttt ccacttccat ggtatgagaa actttcgtct 180
tgttgcag 188

<210> 244
<211> 170
<212> DNA
<213> Pinus taeda

<400> 244
aggagacaca actttacgaa aaagttcaat ctggagtctt ctaagttttt cagactctct 60

aaatatgaaa agcgccgagt ttctcctata ctggactcgt taaaatttta cagtaaagga 120
cctgttctat tacaaacagg aacggaccgc tcctccttag ggatcgcacc 170

<210> 245
<211> 164
<212> DNA
<213> Pinus taeda

<400> 245
ggtgcgatcc agcaagagaa cgaaaaagat atgaagaatc tatgaaatat ttgtacatca 60
ctgtattcat atgagggcct ttttttacaa tgcggtaggg ttgtttggag aattagaacc 120
tgattaaaat gtagatggat tcaagctttt agtgaaatga ggct 164

<210> 246
<211> 187
<212> DNA
<213> Pinus taeda

<400> 246
ctcaacataa agtcatagca tagcaccaca ccacagtcgt catcatttgt tttgttcacc 60
accgaagggg ctctttacag cgtccttgaa gccctgtata gcacccttcg ccttgtcccc 120
cgcctgttgg aagaaagagc cagtttgttc tttcccctct tgggcttttc ccgtgatgga 180
tcgcacc 187

<210> 247
<211> 471
<212> DNA
<213> Pinus taeda

<400> 247
ggtgcgatcc catgggatag ttgcaaaaca cacaaatttg ttgtgaaaga agagagacac 60
gcacagacaa ccatatgatc ttttttttct ttttttttct ttttttttct ttttttttct 120
tcgggaccaa atatttttca atacaacgcc atgtgacatt tttgtgcttc ttgtttttga 180
tacatacatt ccaaaaactg aacactcgat ggatacggtg atgatgcagc tacagccatt 240
gcattacaga tgttattaaa ttaaatcaat ttattatgtc atcacaccaa cccaaacaat 300
agcgctatta tgtcattaga atggttgcag ttacaagatc tgcaaacaga tcaatgaatc 360
atcatgcccc tctatatctc ttgtcaaaca tcaagataaa cctaatttta ggactggact 420
tcctcaatca tatcacaatg gcaaactcag cctcatgtcc tggatcgcac c 471

<210> 248
<211> 265
<212> DNA
<213> Pinus taeda

<400> 248
ggtgcgatcc tggactggcc atatgtgaag ataacaaaaa tggcgacgat gagttcaaat 60
atgcatagaa taagcgttct gtaattggaa cggccatagg agttggcacc tgttagatgt 120
gctggcaggc gtacatgtaa cggtggtaca tgcggtggca ggagtacacc gcaggtgtat 180
tgtaagagta gttggaacga tatatatgcc ttaacataaa atgtttaaga cttaatgcta 240
acattaattc aacattaatt catag 265

<210> 249
<211> 417

<212> DNA
<213> Pinus taeda

<400> 249
ggtgcgatcc catgggatag ttgcaaaaca cacaaatttg ttgtgaaaga agagagacac 60
gcacagacaa ccatatgatc ttttttttt ttttttttt ttttttttt ttttttttt 120
ttttttttt ttttttttt ttttgtttt ttttttttg tgaagtgaca aaatctaaac 180
caaagattaa aaggctttgg cttcagatac tatagaagaa tgagtctcaa agtggacagc 240
atacttgcgt tccgagcctc atttcactaa aagcttgaat ccatctacat tttaatcagg 300
ttctaattct ccaaacaacc ctaccgcatt gtaaaaaaag gccctcatat gaatacagtg 360
atgtacaaat atttcataga ttctcatatc tttttcgttc tcttgctgga tcgcacc 417

<210> 250
<211> 167
<212> DNA
<213> Pinus taeda

<400> 250
ggtgcgatcc caaccaggtg tccatgcaat atatggtgag catcaagttt gaggtggttg 60
attgaaagtt acaaattggt gacatctgaa gtctcattca gttatgtttt tgtatataaa 120
aaccataacc aattttgtat ataagatcca taatcaattt tggccaa 167

<210> 251
<211> 236
<212> DNA
<213> Pinus taeda

<400> 251
gttttcaaga agagcctgac ggtttcctcg gcgggatgac ggaaacagga agcggccggc 60
cggttccgga ccctccgcag gcggagcata gcattttgcc ggaaccaccg catgtcctgc 120
acccaacatc cgcgtctgac cagcggaggc acatgcaccc aaccctcccg gttccattgc 180
acctcgggca gcgcggccac ccgccggcca tcggcttatc catcatggat cgcacc 236

<210> 252
<211> 409
<212> DNA
<213> Pinus taeda

<400> 252
tgggcgaatc atatggcttg cattttcatt gtaacatgta tacgttaagg attatcataa 60
tgcctccaaa accttgtatc ttcgtccttg ccacaataca tccaggataa ctaatggaag 120
cttgacatgt cttcaccagt aataatatat caactataat acatgccatt cttttatcag 180
ttttgaacaa aataatcgat ttgcattctt gacaaagaac ctcgcgcata aaaacaaata 240
aattctcata atgcctccca aaccttgtag tctgggccct cagtcgccac aatccattta 300
agaggaattt gggggttgat agtgcccagg tccaatcttc atgaaaattc gttcatcaat 360
ctttgctgca tacacatctc tctctgcttt cactatctgg gatcgcacc 409

<210> 253
<211> 356
<212> DNA
<213> Pinus taeda

<400> 253
ccactataat gaacattgat attacaaata taatatacat taatattaca attcaaatca 60

ttgacaatga gcaggcacta cttgcagtgc tttggaattc agacttctga tttgcaatta 120
attcttgtag acgcttttct gggagggcag gttttccgct tcagagaaaa ccacgtacaa 180
aacgatatta aataaaaata gacacataca aaaaatactt catttttgc tctttccatt 240
tggtttcttc ctctatctcc attttggagg gcttaaatga cttcaaattt aaaagtcaac 300
aacagagtgc agcacattct attagctttg ctgtaaatat ctgattggat cgcacc 356

<210> 254
<211> 375
<212> DNA
<213> Pinus taeda

<400> 254
ggtgcgatcc gcattaagag aagcatacaa gaaaaagaag tacctgcctc ttgatttgcg 60
tcccaagaag actcgtgcta tcaggcgacg ccttaccaag catcaggcat cattgaagac 120
tgagagacag aaaaagaaag agatgtattt tccaatgaga aagtatgcag ccaaggtgta 180
aagcacagga tttgagcttt catgcaattt ttttgttact cgcgggatga tattgcctat 240
tatatttccg tccaagtttt tggcaaattc ctatttgcat cagaattcaa gttatgatag 300
gtgttctttc gtttttgagc agttgatatt gtttatcttt tatttctatt attaatcttc 360
taagttggat cgcac 375

<210> 255
<211> 189
<212> DNA
<213> Pinus taeda

<400> 255
aaacagacaa atatagaaat atgcatacat aagtccctgc agaattgttt tccgcaatga 60
attctggttt atggcaacat tacctactta gtactaaccc taagattatt ttcagctctg 120
ataagtggca tacgtgtatc aatcttgcat gagtctatcc ctgttttaat cttttgttgg 180
gatcgcacc 189

<210> 256
<211> 105
<212> DNA
<213> Pinus taeda

<400> 256
gtggaagctt cattgtaaaa cactactggt tttgagagaa caaaatatat acgctagccg 60
agtggattat aacaaaatat aggctttatt ctattggatc gcacc 105

<210> 257
<211> 348
<212> DNA
<213> Pinus taeda

<400> 257
ggtgcgatcc catacattaa catagccatc acagccccca gtggcaaaag taccatagct 60
gcaaaaacat tataaaacta acattcctac aaggaaataa aatacaacta aaaaagcaag 120
caataggcat taggggaggg agaagctaaa actattaagc aacttacatg ggatgaaagg 180
caattgcgtt tactggataa acagtatctc tgccagcctc tgacttgcga tgacatttaa 240
aggcatattt tttaagcttg accagcttca gatacatcat aatactccat agccatgcga 300
gcttccacag aactaagggg caaaacctgt tccatttgga tcgcatca 348

<210> 258
<211> 476
<212> DNA
<213> Pinus taeda

<400> 258
ggtgcgatcc aactgagaag ggtgtttggt ggaaagatga caccaagtgg gttctctatt 60
ctccagagga tgcaagaaaa attctgagag caaagaagaa tggggactca aatattacgt 120
tgggttctgt taaatctgcc aagtaccctt caggaaagct ttatgccata gacctggtgg 180
ccatgaagca aaccaatgta aacactggct tctccagaga tatcaaaatc atcaattctt 240
gccctactga tgatcaggaa gatgtagagt ctgatgaaga agatgaatta ttcacattct 300
ctcgtcctgt caaagttgaa gtgattaacc agagcaggaa acctgataag attgtcaaga 360
tggttccttc tgtcactgta gaccttgaga aattgacttc tcaatacctc ctggaggatg 420
agtgcaattt ggttctaaag cttcccaggg ctgcagctgc ccaatcggat cgcacc 476

<210> 259
<211> 317
<212> DNA
<213> Pinus taeda

<400> 259
ggtgcgatcc agctaatcaa acttaatgga gagcccttcc caggaagagt aaatggtagt 60
cacttgaagc cctacacggg tgggctggcg gtctgactaa ctgaccaaaa catagtcttc 120
gcgacccaac aagccagaca gaggtgtggg actataagca caagtactag aagctagcat 180
caaagtagag aattaagtta gatacagatg attcagaagc agaaatggag cagatccaga 240
ccacggtagc atggtgagtt acgaaccttc acgccacacc aacgcaattg gttaagactt 300
cgcactagga tcgcacc 317

<210> 260
<211> 283
<212> DNA
<213> Pinus taeda

<400> 260
ggtgcatcca tagttccttt tgctaagcga ctactctatc tcttttgaca tttctccaaa 60
tattgggtct ttcagttcct tcaaatgcta gaatcatatc aacatgggat ttagtgaggc 120
cgcaatacta accagggcat taaaataata catttcattg atcctattcc caaaacattt 180
cccgctatcg tacgttgact cagcatattt agagcaattc ttcttacaaa ccttaagaag 240
gttgttcatg atagtctttc cgtctgcaat attggatcgc acc 283

<210> 261
<211> 299
<212> DNA
<213> Pinus taeda

<400> 261
ggtgcgatcc cacccaagag ttaaattcac ttctccgcct ttctgaggaa gagcactctt 60
tggatgatat gaaaagtggt ccactcttaa aaaccgtatt cggaaccctg ttccgcggac 120
ggtcgtatgg cgtaaccggc gcagacattt tatctcctca cacaatatca acattcaagt 180
ccccgctgtt ccccgttgcc tttctctgct cccgaccgtt aaacaagaac gaccacaaga 240
atgaacaaca ccgcaaccga aacctgaccc tccacgttgt cttcggttcg gatcgcacc 299

<210> 262
<211> 352

<212> DNA
<213> Pinus taeda

<400> 262
gcggacgcct ggcaaaaaca gagggtatgc tcaagcctta cagaaattga aaaataagag 60
aacgtatgac catcaatctc aatctcaaga aaagaagttg caatacgact ccaacacttt 120
tgaaagttgg aggtttgctc tttctagcgt tgcagacatg gttggttttg agctggaagc 180
gtgtaacggg cactttacag ttgcgggaat tggagattga ggaccccctc tcaaacgtcg 240
atagggaggc taagcatcta tagaggattg tgattggtcc ttttccgcta catggaaaga 300
aagtcaaact cagaaaatta ccagaagaat tctgtcgtct tctcgcagcc gt 352

<210> 263
<211> 221
<212> DNA
<213> Pinus taeda

<400> 263
gacgttgtaa aacgacggcc agtgtaaaga gcagccccga tgcgccgaag ctcgcgaggg 60
aaaagctgca gaagatggga ccgatgacca agaatgagat catcatgagc ggcacgctac 120
tggtcacggt gggtctttgg atatttgggg gaatgctgaa cgtggatgct gttactgcag 180
cgatccttgg tttgtctgtc ctactctgca caggcgtccg c 221

<210> 264
<211> 365
<212> DNA
<213> Pinus taeda

<400> 264
tacggctgcg agaagacgac agaagcagaa cctgccaata taggatcaat tgaatgttgt 60
gggattgctg catgcccacc tttcccagtt attactgcct tgaagaaccc acagccagcg 120
agtaagggcc cgggtttcga accaatcaca gatgtaggat aatcgcttga aacatgcata 180
gcgaatatgc cttccacatt ttccagtgct ccctcctcta tcattctttt tgatcctgca 240
cctgattcct ctgcaggctg gaagagtaat atgacagttc cctgtaacaa atgctgacgt 300
tgttgcaaaa tctttgcacc accaagaagc atggtaacat gtgcatcatg tccacaggcg 360
tccgc 365

<210> 265
<211> 491
<212> DNA
<213> Pinus taeda

<400> 265
tacggctgcg agaagacgac agaaaagagg caaaccgagc tcgacacctc cactcagagc 60
atttgcaaaa atccacaaca aatctggagc caaggtcttt ccctcattga aaacatttat 120
cggacacatc aatgtctgta gtctttccca tggtccatcc agagtaatca cgggaagaac 180
aatgcacttc agttcagaat ttttgatgac agctatcagc tcctgatcct ttgaaccagg 240
tatataataa tcttgacctg actcctgttt caacagtgta gaggttctgt caacctcaag 300
caatgaatcg gcagaacttc catttgctgt tttgtcaata caggcattgt ttttaccaag 360
actgtgacgc atcttctgtc cttgtctata cagtgcagtt tgttcaagca tagacttatg 420
tgctagaaca tgtcttcctt ttaaattgta agagaaatgt aggggttgac tgcttttact 480
gaggcgtccg c 491

<210> 266
<211> 485

<212> DNA
<213> Pinus taeda

<400> 266
acggctgcag aagacgacag aaccctggct gactacaaca ttcaaaagga gtctaccctg 60
catctggtgc tccgtctaag aggaggcatg cagatttttg ttaaaaccct tacaggcaaa 120
acaattactc tggaagtgga aagctcggac actattgaca atgtaaaagc taagatccag 180
gacaaggagg gaatcccacc tgaccagcag aggttgatct ttgccggaaa gcagctagaa 240
gatggtcgta ctctggccga ttacaacatt cagaaggagt cgacccttca cctggtgctc 300
cgtctccgtg gtggctttta ggttggctgt tgtgtgtcaa tgtagtctgg tgatgttcag 360
tggttttcct gcttaatcct ttttatgtat gcatgtgttt gttgtgtttg tgttttgtct 420
ctatgttttt tctacttggt ttgtcggtcg gttgaagccc ggctggtgtc ctggtaggcg 480
tccgc 485

<210> 267
<211> 494
<212> DNA
<213> Pinus taeda

<400> 267
gcggacgcct ggacaaacac agaaggcgaa gtaaaagcca gtcttacttt tcatgtaaat 60
actatcaaac tgcatggccg ttccgctggt tggcaatacc acacctgcgc cggtagtgcc 120
aatgaacact gcaccggcag ctctttcaga agttgcagag gacttaccat tttaattttc 180
acggcatccc gtcaaacggc gggatgcttt taatttttta atcaaaaaaa atattaatta 240
tggcacacaa tattgttttc aacgaacaga caggcaaaca cagtttcttt agtgtaaaag 300
aaaaagcatg gcatggtttg gggcaaattg tacaggacta tcccaacagt aaagaagcat 360
tgcaatttgc agggcttgat tttgaagttt gcaaaaggcc caatattcac aggcttgata 420
atggtaatga gattatttct accagttcat tctatactta ccgtcctgat accaacgcca 480
tattaggcgt ccgc 494

<210> 268
<211> 469
<212> DNA
<213> Pinus taeda

<400> 268
gcggacgcct gaacatagga gcattcttaa gcatatcagg tataaccata aacctgactt 60
tgctgccccg aataaagaca tgctccaatt gggatacttt tccatccttg gcagtgtaag 120
tgatgccctc gagctggcaa ttccagttat cttcgcattc gatcatgcta cccctgtaca 180
gctcgccact tttgagttca actgtcacaa catgcccggc tgcttcatgg agcaacttca 240
caggaatccc caaacttctg ctcatttttt tgtcactgct caaaaaccct aaaccccaga 300
taaaaccctc ggttctgtgc cttttatccc cgggtggctt attgttgcag tagttggcaa 360
cggctagact tactcacatt ttgatttcaa tctttctaag tttgcccttt tgggttttcc 420
tcacagtaga tcctatttta tgtattttct cgtcttctcg gcagccgta 469

<210> 269
<211> 345
<212> DNA
<213> Pinus taeda

<400> 269
gcggacgcct gcaggaatcg gccgatttgc agttcgaggc ataagcgcat cgaggtcgcg 60
ttcgatgtag caattaagcg cgcatgaacc gccgctaagc aagccagtcc caatcaaagc 120
acatgcaaag cggatgcaat caaatcttcc gttgtaagca agcacaaatc caactgcaca 180
tgagatcacc accatgaatg caattcgagt gcgagctaaa tcccaaaacg ctgcgagtgt 240

ccccctgaagg cgattcgtat gtaatatttg accgctgctc aacacaagca gtactccaaa 300
caccagtgct tccgccgtca attctgtcgt cttctcgcag ccgta 345

<210> 270
<211> 342
<212> DNA
<213> Pinus taeda

<400> 270
ctgcgagaag acgacagaac acagacacaa aatttggaaa ctacagaaaa gaccatgtca 60
tgaaatcttc ataattgggc ttcagatgca gaggggtcg gttttggatt aagcaatggc 120
tgaagtgctt tgacaacaat actcatgtta ggacgaaaat ctgcttcata ctgcacacac 180
aatgccgcaa cagcagccat ctttgcaaca gcctttggag gatattcact cttcaacttg 240
ggatcaacac actgctttac tttgtcttca ctcaatcttg gagttgccca agtaacaagg 300
ctttgttgtc ccctaggcat tgtatggtcc acaggcgtcc gc 342

<210> 271
<211> 313
<212> DNA
<213> Pinus taeda

<400> 271
tacggctgcg agaagacgac agaaagagac aggcttggac ttcgtggcct tcttccacca 60
cgcattattt cttttcagca gcaatgtgat cgtttcatgg tttcttttag atcccctggag 120
cataacactc gagatggttc agctgactta acagctctgg caaaatggcg tattcttaac 180
agattgcatg acagaaatga aacactatac tacaaggttc ttatagatca cattgaagag 240
tttgctccaa taatctacac tccaactgta ggattggttt gtcagaatta tggtgggctg 300
ttcaggcgtc cgc 313

<210> 272
<211> 277
<212> DNA
<213> Pinus taeda

<400> 272
gcggacgcct caatagttat ggaagggcag ctgcactact tcagcatgag tggaggccta 60
aaagttttgt taatctttct ggtgaggtgg acaccaaagc ccttcacaac agtgcaaagg 120
tggggctatc tctggttttg aagccttgaa ggatatgcac tatttggtac agatttaagc 180
gaaggtctgt gccaaatttt tattggaatt tttgagtttt tcctttcaga ataattattt 240
caatgcctgt gttttctgtc gtcttctcgc agccgta 277

<210> 273
<211> 278
<212> DNA
<213> Pinus taeda

<400> 273
gcggacgcct tttgcccaat taacatccct gcatctgcgc attaaaaatt gattgcagac 60
ctgaggttta agtggaagct tcttccacca tctctccccc gtttaaggaa gacccgaaac 120
cctagccact gtctcctctg tgacttaaaa ttccagttca ccaaccttaa ctctgcgtcc 180
gttaaaattc tgggcaaact gcactgccaa ttggtcatca tatcctctga atttggcaaa 240
gaaaacatag gtcattctgt cgtcttctcg cagccgta 278

<210> 274
<211> 180
<212> DNA
<213> Pinus taeda

<400> 274
gcggacgcct cgtcaatcca tggttgtaaa catgccttca aaactgtttc cttatgtcgc 60
acaatgtcta catgttcctt gagcgatttt tcctgctgca ttgcgagcct ctgtgtaagt 120
cccactatct gcgctgtccc ttttacttca taatacttct gtcgtcttct cgcagccgta 180

<210> 275
<211> 446
<212> DNA
<213> Pinus taeda

<400> 275
tacggctgcg agaagacgac agaaaaaact gtatacgagt aggcagcgag tcctggcagt 60
atgggagatt gaactccaat tacatttagt tacaagtagc atcaacagtg actgagccaa 120
gagctctaca cagaaaaata aaataaaaac tgtatatatt tacaggagaa accccaatgg 180
cctcagggcc tgaataaatc aatcgcagcg gtggtcgatg tggccttttc agggctgcaa 240
atcttgcaag gggaagccat catccttgtt ccgtatcctt tttgagggat agcgagccac 300
gcagccaaga tttgaagcga ttgaatactt tggggtgtcg agaacgcacc agaacaatgc 360
cactcgagaa atactactgt gattactgtg acaaacaatt ccaggatact ccctccgcta 420
gaaagcgaca tctacaaggc gtccgc 446

<210> 276
<211> 425
<212> DNA
<213> Pinus taeda

<400> 276
gcggacgcct gtaccgtatt ggaattctaa acccttcctt ggtatagggt tttcgccacc 60
cttgcgttca tttggttttg tattacgtcc gattcctccg tctgcgagct ctctgcaact 120
tggcaatttc attgtgattt tatcctatga tgcttcgtat ttgtttgaag ctcgtcctcc 180
tagttctctg tgataccagt tggtagtctg caagtttcga tgtgggttct tttagctggt 240
ctggggtttt gttgctctga gtatgttgag ctgcatgctc gtggcggtct tcacggctcc 300
atttgttcgg aatctgttgt ggaagtgtct cggtcatctg tggaactgtg gaaacctggt 360
aagatttgtt tatctgcttg tgtctaaact gttcttgagt tttctgtcgt cttctcgcag 420
ccgta 425

<210> 277
<211> 295
<212> DNA
<213> Pinus taeda

<400> 277
gcggacgcct gctgttgaag aaggatgaag tcattgtctg cggccctgtt cagcatgatt 60
tcggcattct taatctggtc aaccagtcag aaggtggcgc tgaaggtgac gaagaggcaa 120
cctgggtagc tgcactggaa actcaagctg caaggggcac cgaccctcag acttcgcgcg 180
attaacttct ccctctggct aagtcgatgc caaggtcctt gttctgggtt cttctctctg 240
tttcgcatgt tgttcttctc tctgtttcat ttgtttttct tctgtcgtct ctcgc 295

<210> 278
<211> 196

<212> DNA
<213> Pinus taeda

<400> 278
gcggacgcct gcacatacaa agaacgacaa aaacaaaagc ataaaatcca atagatgcaa 60
ctatatatca agtcagaaat gatataactc atcattatta caaagaacaa taagagtgga 120
accataataa tagtcgtcta ttattgataa ataaagaaga atacaaccat agttctgtcg 180
tcttctcgca gccgta 196

<210> 279
<211> 172
<212> DNA
<213> Pinus taeda

<400> 279
gcggacgcct gtataacatg caccaagaga cccaatcaaa gcacatgcaa tctgtatata 60
tagcagaata acagccaggg attgcactct atcgtaatcg cgaaaccacg cactaatatg 120
tgcccatgct gatgatgcac acagcatgtt ctgtcgtctt ctcgcagccg ta 172

<210> 280
<211> 405
<212> DNA
<213> Pinus taeda

<400> 280
gcggacgcct gaactgtata gagttgaaac ttgagggaag gcttgctgcc accaaagcct 60
ccctcctctt tccttggcgg ttcgtcacct cctttcgcgt cagagcccca attcccctcc 120
tgcgcacacc agcaaactgc atcgaatgtt ttttccacca ttctgtaaat tcgctcggag 180
ttaccttggg gcagaagccg cattgaagag cattgaatgc tattcattat cccaccgtaa 240
actaccattg caacctgcct gtgtatcgac ccgctgtcct ctacgcgtgg ctggcacatg 300
gcgtcgttaa ttgcatgttg acacccgtat ccgggtgtgc ttgtgtgctc gtctgcatat 360
catgttttag gatctcatag aaggtggacc attctgtcgt cttct 405

<210> 281
<211> 412
<212> DNA
<213> Pinus taeda

<400> 281
gcggacgcct cttacaatgt ctcttaaaga ttggaaagat tgtcttgtct gcaaccataa 60
cttccgcgtg ctttcttatt aatgcaaccc actgtgatcc tttccgccat ttatcctttc 120
gaatggttgg agccattttt gggttgtacc gactagcttt tgggtctaca aagctgtcta 180
caaaactctt tggagatgac attacataat catatgtata gctgaagttg tacaaaggta 240
cacaactatc tgaaaccaaa atgaatctct cgttagctgg atcctcgagt gctttcctaa 300
gtagaatacg ctccgcttct atcatactgg cttctcccca aagtacctgt atgctatcac 360
taagctgcca gccgtaacaa aatgtacatt ctgtcgtctt ctcgcagccg ta 412

<210> 282
<211> 345
<212> DNA
<213> Pinus taeda

<400> 282
gcggacgcct tgctaggaga gctctacgcc attatttgaa cgattgagcc gaagtttcac 60

cgtttaaggc atttgtgtcc cagaggttat tggagattag cagcttggat ttggctgctt 120
cgctcagcgc cgtgattcag cttttgattg attctctcca gtttcataac ctgtaacgac 180
aatggcaatg aagacctaca catttgcagt ggcagctgcg tacgctgtag tcctgatgtt 240
cgctctcttt ggcatcgcaa aggctgctga tgcaccgtct cccagccccg ttactggcgc 300
gggttccatg gacttcgttc cttctgtcgt cttctcgcag ccgta 345

<210> 283
<211> 218
<212> DNA
<213> Pinus taeda

<400> 283
gcggacgcct tatcagctgg gggcattcat aggtatggaa attcagatca acttcagtgg 60
acagtatgtg gatttaggcg acctgtgaca gttcacgata tctattcatt tctatccaga 120
gacagattcc catactcacc tccgtccttc ccatatattt tctggaaggc atcatgtcct 180
cccaaattta ctcattttgc ctggccgtcg ttttacaa 218

<210> 284
<211> 219
<212> DNA
<213> Pinus taeda

<400> 284
gcggacgcct gttgccacag aagaatgaat aatgcttcaa attttgagac ctcttcggag 60
gaaaatcctt gttcttactg cctaaccact catgatgatc tgcgtcacgc tgattatgag 120
ctgcaattta aattatttca gatgaaacat tcccatattg agcttgcaga caagttgcag 180
acccttcaat ttcagttctg tcgtcttctc gcagccgta 219

<210> 285
<211> 60
<212> DNA
<213> Pinus taeda

<400> 285
gacgttgtaa aacgacggcc aggattaagg ttcatgagct ccgcaacaag agcaaatcag 60

<210> 286
<211> 732
<212> DNA
<213> Pinus taeda

<400> 286
gcggacgcct ctaggagccg gcggaattcc tgtgagctcg aatttgccga gcaggttatt 60
gtccttcgtc cgcgctcgct caccttcata tacttgaatt agaaccccag gctgattatc 120
tgagtaagtt gagaaaatct gctccttctt ggttggaatg gtggtgttcc tcggtattaa 180
tactgtcatt acacctcccg ctgtctccaa ccccagactt aatggcgtga catctagcaa 240
cagcaggtcc tgcaccttct cgttgccttc gccgctgaga atggcagcct gcacagctgc 300
accatatgcc acggcttcgt ctgggttaat gctcttacaa agctctttgc cattgaagaa 360
atcttggagc aattgttgta ctttggggat acgagtcgaa cccccgacca agacgacatc 420
atctatttgg ctcttgtcca tcttagcatc ttcgcataca tttctccaca ggctccatac 480
ttctcctgaa aagatccatg ttgagttcct cgaagcgagc tcgcgtaatt gtggcgtaaa 540
aatcaattcc ttcatataga gaatcaatct caatcgttgt ctgtgtagta gaagacagcg 600
ttctttttgc cctctcacat gctgttctca gcctgcgaag agctctggca ttcccgctga 660
tgtcttttct gtgctttctt ttgaattcct gcacaaagtg attcaccatt ctgtcgtctt 720

ctcgcagccg ta 732

<210> 287
<211> 100
<212> DNA
<213> Pinus taeda

<400> 287
tagccatcgc catttctata atcttaggat ccttgctgaa cgataagccc ataaaattga 60
tgcactgcct cgctatccct ggccgtcgtt ttacaacgtc 100

<210> 288
<211> 347
<212> DNA
<213> Pinus taeda

<400> 288
gacgttgtaa aacgacggcc aggaaattac agctacctct aactggtttg acggcgttgc 60
atcttatgag ccgcaagggt tcgaatcctc tgcgggccag atctgcgatg gaaccctggg 120
cgagtgcaat gatgatgaag aagagtttgc gatggattct gaagcgcacg ggaggcttct 180
gaggaggatc cgttactata tcagctacgg agcattggct gctaatcgcg ttccttgccg 240
acctcggtct gggaggtctt attacactcg gaattgttac ggcgcaacag gccccgtcag 300
accttaccac agaagctgca ctgctatcac tcgttgcagg cgtccgc 347

<210> 289
<211> 106
<212> DNA
<213> Pinus taeda

<400> 289
gcggacgcct gggaagcaat ggatgggtgg ctagacgcca tccgtcttgt gtatactatt 60
tttgcacgcg gaaagagtga tgtcctggcc gtcgttttac aacgtc 106

<210> 290
<211> 307
<212> DNA
<213> Pinus taeda

<400> 290
gacgttgtaa aacgacggcc agattcaaaa gaaaaaatcc tcacttcttg gctccgtttg 60
cgctcccgcc gaagctcctc tgcaacccct ctgcagcgta cactgcatcc cgctcgcggt 120
gctggctcac ctcgcaggtc cgctgacggt aaatggtttc caataaagct atttgtcctc 180
tacccaaaat ccatctagca ttcgttgtgg attgacattc tgccatttct ctgcttttct 240
ggttgatatg caaagattga aagcccaatt gcaagcagtg gtcgtggatt cactataagg 300
cgtccgc 307

<210> 291
<211> 286
<212> DNA
<213> Pinus taeda

<400> 291
gacgttgtaa aacgacggcc aggaataaaa caaagcatca ctgcaaaatt tcaaacgtgg 60

taataacggc tagccagctc gacgtgaagg cagtgggggc cttgaggttg ccttttggcg 120
ttcaaaattg gctagactac cataacataa atattgattt ctcagtgaca tcactggttt 180
ggagtcatcc acagcctgtg caccagtacg gcaattgcct tttacatgaa gccatccttt 240
cacttttact tttgagattc tcagaactga ggggctaggc gtccgc 286

<210> 292
<211> 290
<212> DNA
<213> Pinus taeda

<400> 292
gacgttgtaa aacgacggcc agcaccttcc tagtcccctg ttccattctc ctgaaatagg 60
agcagtttga cccagtccag ttttcagaat tgagaatatg aaacaaagaa cctaagcata 120
tgagagaaca tacaaagact ttgtataaac tacttttcac aggatctcaa cagccctctg 180
ctgagatcca tttgatacaa ggccccttgc atctccaccc tctcccttat cacctccact 240
agaaagatga tggaaagcag acacatggaa atgttgctgc aggcgtccgc 290

<210> 293
<211> 497
<212> DNA
<213> Pinus taeda

<400> 293
gacgttgtaa aacgacggcc agttaggttg tatattgatt gatgactctt tgactccatt 60
tatgaaaaca tctttgttct cgagatttaa tcagtattaa gctttcagag tgaagttcag 120
tttgatctgc ataaacctga tccaccatat ctacatcaca tctaaaatta ctaaaatgtg 180
aggagatgga atttgtttct tgagaatccc tattcctcat cgacactgtt tactggatca 240
gatccaatca aactcttgag aagtaatctc tggaaagaaa ttaaaaagtc tttacctgaa 300
ttatctcgat atcagaagca gaaattatga tacatagact tcttaataat gaagagtcat 360
tttgccaacg ttgtctttgc caccccacca atccccatga tcccaaagat ctgaggtttc 420
catctctatg tggctgtgat aacactggat ttttcaaaaa tcttctactt tcgcatccaa 480
acctttttgg gatattt 497

<210> 294
<211> 238
<212> DNA
<213> Pinus taeda

<400> 294
gacgttgtaa aacgacggcc aggggatgg gagatacaga aagattccgg ataaaaggga 60
gcaatgaacg gctggttaaa gcgtagtcca ccacactagc cccacctcca tgaggcctac 120
acgtgaagaa gcaggattct gggaagcgcg agaggccgtt caagattatc agctcatgtg 180
attcgcccaa ctgcaaaaga tgtctaccgt aggctgtgat ggggcccaag gcgtccgc 238

<210> 295
<211> 311
<212> DNA
<213> Pinus taeda

<400> 295
gcggacgcct atcagatggg tgagttgacc gacatttatc gtccgataaa tgtttgaggc 60
tgatgtcatg gcaatccacg tgtctgcacc atatttcatc ggagcccctc gtcggaatat 120
tccatcgccg gagagctggc gcgataggtt tcaggcggcc ggtttctggt ttgcagctgt 180
ggcttcccgc gcgccttaac tgttggcccg cgcgcacagg ggaaattaca aatttcaaca 240

tatccaatac catcatataa cccaacaaca ctagcaacag atcctgttct gtgccatcgt 300
ccaactcttg a 311

<210> 296
<211> 202
<212> DNA
<213> Pinus taeda

<400> 296
gcggacgcct taattcgact acaaagatac tgaagccaat gatgacaggt tgtgccactt 60
tcccagctga taaagacagc tctgaaattg atagagccag aactccagct gcaatgctcc 120
ccagagcctg gttgaagcgc ttgctaaagg tggcacttta tagaccgacc caaaacctcc 180
ctggccgtcg ttttacaacg tc 202

<210> 297
<211> 507
<212> DNA
<213> Pinus taeda

<400> 297
gcggacgcct actggaaacc cggtccaccg aaggctgaaa ttgtcctgct ttgtataccg 60
aatggcagga aggttgtcga gcatcaggtt cacctggtaa agattatcga tcctatgctt 120
caataccttc agctgctctg ccccaaggac agtagtattg cacaggtaaa tttcagattc 180
attgacattc atccggaagc gatatggtga gttctcgatc ctgtccccca tgaggagctc 240
cccaagattt tctgccatgt ccttcacacc atccaagggc ttgcagaagg gcaggctgta 300
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tgacccctgg gagaatatga tgtgaggaat acagtgccca gtaaatataa ctccgcatta 420
tacgtttgtg tgtgccttcc ccaatattgc cccaacataa tcaaaaccca caatcccaaa 480
tcctggaccg tcgtttttac aactgtc 507

<210> 298
<211> 522
<212> DNA
<213> Pinus taeda

<400> 298
gcggacgcct tgtcaggacc aaatgtgtaa gaaacacctc tgtcattcga gccccatcct 60
tgaattgcat tgcaggggtc tgaccaaaga agatcacata acaaccctgt atctggcaca 120
tctgtaggtc gaggtatatt ctttatttgt tccaaattgg tcagttcagg cgaaagacca 180
ccatgcatgc ataggatctt ttcatctata agtgcagcaa caggcaggca gttgaaacag 240
tctgtaaaaa gtttccatag tcttacattg aatctgcgct tgcactcatc atagaaacca 300
tatatgcgat ttattgaggc acattcatga tttcccctca gaaggaaaaa gttctctggg 360
tatttaattt tgtaagcaag gaggaggcat attgtctcta ggctttgttt gccccggtcc 420
acataatctc ccaagaaata agtaatttga ttctggtggg aagccaccat attcaaaaag 480
ccttagacag atcagaatac cggcctgtcg ttttacaacg tc 522

<210> 299
<211> 410
<212> DNA
<213> Pinus taeda

<400> 299
gacgttgtaa aacgacggcc aggagacggg aatacctatt tttgggagga ttattgggct 60
cgggaatcag catattgatg tggctgcaac tcgcatcctc gatctttggt ggttcttcgg 120

cgatttacac atttgagatc tacttcggtc tgctagtttt ccttgggtat attatatttg 180
acacacagat gatcatcgag aaagcggacc atggagacta tgattattta aaacattcac 240
tggacctctt tattgacttc gttgctgtat ttgttcgcct gatggtcata atggcaaaga 300
atgcagacag taaatccagg gaagggaaaa agaagagaag ggcttgaact atgtgagata 360
caaaaatatc gagaatagaa gggcttgaac tagggcttga aagcgtccgc 410

<210> 300
<211> 237
<212> DNA
<213> Pinus taeda

<400> 300
gcggacgcct atcagacaag ggttgttgac cgaactttat cctctgaaaa gtgcttgaag 60
ctgatgtcat ggcaatccac gtgtctgcac catatttcat cggagcccct cacacggaaa 120
caaccttaag ccaaaaggtg gtgcgatgac ttaccggccg tttatggttt gcttcggtgg 180
ttttctgttg ggtggtttcc cgcgcgcgtt aactgctggc cgtcgtttta caacgtc 237

<210> 301
<211> 625
<212> DNA
<213> Pinus taeda

<400> 301
gacgttgtaa aacgacggcc aagaggggga aactcccaaa acacttttcc atttttcttc 60
ttttattaaa cttcaaagta ttttccaaca gagttacaag gggccaacca tgtccaaatc 120
catgcattta ccaagtacaa agaatggtag tccttggctt gacctatcgc actagccaaa 180
agtgccaagt ccacaactag ggtgtgccca acctaaggtt gacaccttgc ctagaaaaaa 240
ccccaaactt ggcaccacaa ataacacaga aacacaactc ttgacctctg ccagaaacca 300
ggctctcttg ggaaagccac acctctctct gtgatatgtc ttatctccaa tttccctttt 360
tgtgatgcac tcccttgctt gtggttctgc gatatcacac aaacttacat ttctgcgatt 420
tttgtttctt gcttctccaa atcatgcgat cttattttta acccttgaga cccttcacac 480
tttccatcca tgacgtcact tcatcgtttt agccaattcg tcatttgggc atgttgggcg 540
ttgggtctac ccgtattccg gtcgtacagg ccaaattgac cattttggtc caggtgggtg 600
cacccattcc tggagggcgt tcggc 625

<210> 302
<211> 629
<212> DNA
<213> Pinus taeda

<400> 302
gcggacgcct ccacagagct cacacataca atatactatg atgcctccag aactatggca 60
ctctgtatgc cgcttcaata tggattagcc cacactgcgc catccaatta ggcgaatcaa 120
ccttatagca ccatccacaa cctccagcgc tctctttttc acgctagatt ggccaactac 180
aggctttaca acactactca tatacaactc aactcggctc ctctgctcac cactaaatca 240
cacaggctcc aatcgctaga cagagccact acacaggcac taatagccac tacacaggca 300
ctaatcttgg cgtcctccac caggttccaa caacaacccc aaattgcata tgcactccac 360
agtgagcacc aactaggtcc acacaatagg ccacaccaac aacactccaa ggaccctaga 420
tcctgcctca cccagacacc actaggcctt cctcacagct cacctaagtg agccaacaac 480
tggctgggca cacagctccc aactatatga gcacacagcc caactacagc tccaccacac 540
gcacagctac acgcacaatg ccttctcaag ttcacagcca caccataacg cagcacagtt 600
cttacaaaca tatctctcca ggcgtccgc 629

<210> 303

<211> 324
<212> DNA
<213> Pinus taeda

<400> 303
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gtgcgggcaa tccttaaagc tgttgaattt tgttgctgta cacgaaggtg cagggtcttt 120
atgccacgaa gaatcaagta cgctgcattt ggacttaata cacctcccaa gacattgtgc 180
aaagcacgta ctgtgccaat aaccttgttt gaaccactca aactgcctgc aagaacatca 240
ttatgacctg caatatattt agttaccgaa tgcaatacaa tatctgcgcc gagtgctaac 300
gctttctggt taacaggcgt ccgc 324

<210> 304
<211> 331
<212> DNA
<213> Pinus taeda

<400> 304
gacgttgtaa aacgacggcc agtcattatt gacaataatc ctttcagctt tttactgcaa 60
cctttaaacg gtataccttg cgtttctttc actggagcac actcagatga taatcagctt 120
ttacaggtgc tcttacctct gttgaagcat cttgccactc aggaggacgt gcgccctgtg 180
ttgtatgaaa gattttacat gcccgcatgg tttgaaaagc gtggcattcc agcatctgag 240
tggcccttgt gacttggttt tgattttgga tactctttgt cattttgggt caaggtaaag 300
gtgtacgtat ccaagtgatg caagcgtccg c 331

<210> 305
<211> 286
<212> DNA
<213> Pinus taeda

<400> 305
gcggacgcct gatagcacga gtcttcttgg gacgcaaatc aagaggcagg tacttctttt 60
tcttgtatgc ttctcttaat gcggatcgct ggctctgaga aatcacagtc agaacctgag 120
ctattgatag cctcacgacc ttgattttag agagtttgtt gggcgctcct ccagtgacct 180
ttgcaactct gagcaaggca agctcagcct tgagctcctt gacctggctt aacagctcgg 240
atttgccctt gtggcggact caaggacctt taacctgggc gttcgt 286

<210> 306
<211> 271
<212> DNA
<213> Pinus taeda

<400> 306
gcggacgcct ggtgtcgctg ggccagttca agtattttag caacagtgtt cacacttatt 60
ccctgtgata ttcttgactc acacaaccac cttaactgac gcagaccata tcgatctgct 120
gctgtaagca aatgttcgat cattgtctca ggtgtcaaaa agcaagggga tggatcagaa 180
agctcttcta aatctgcatg ctcctctaaa tctggaaggg tatctttgta aataaagtgt 240
aacatagcct taaacacctc tggccgtcgt t 271

<210> 307
<211> 283
<212> DNA
<213> Pinus taeda

<400> 307
gacgttgtaa aacgacggcc agaggtgttt aaggctatgt tacactttat ttacaaagat 60
acccttccag atttaaagga gcatgcaaat ttaagaaaaa ctttcctgat tcaacccccct 120
gccttttggc accctgaaga tggttcaaca atttgctaac ggaaccaatt caaaagggcc 180
gcctccattt aaggtgttgt gttagtccag aatatcacaa ggaataagtg ttaacaccgg 240
tgccaaaata cctgaactgg accaacgaca ccaagcgttc gcc 283

<210> 308
<211> 259
<212> DNA
<213> Pinus taeda

<400> 308
gcggacgcct tgtaatccag ggccttgaat attgtaagag aagatcgaga aataatagtt 60
ttcttattat caggaatcac agcttgaaga aggcagacca tggactccca ctggcttcgt 120
gatattgagt ccccaacaaa cattagtcgt tttcccctca atctccacag caagtctctg 180
gcattgaatc tgcgaaagga acacccgagt ggcttccacc tccatttctc gtaatcagaa 240
tctggccgtc gtttaacaa 259

<210> 309
<211> 237
<212> DNA
<213> Pinus taeda

<400> 309
gacgttgtaa aacgacggcc agcagaagac cagtgcagta tgctgcagca tagtttgtaa 60
gccctacttc gagtccataa cgaggcaact ccctagaata agcagccgac ataacaacat 120
ctcccgcaag agttgcataa atgatctgtg ccaccacatc cttgttgctg aatctaacga 180
ccaatcggta tttgggtgtg ttgtacttgt tcttatcttg gttaatcagg cgtccgc 237

<210> 310
<211> 417
<212> DNA
<213> Pinus taeda

<400> 310
gacgttgtaa aacgacggcc agcatccatt gcagaaattt tgggggctat atttagcaac 60
agatatcaca gctgtaagtt caaagttgga cccttcttct tcgacatctt ttccagctgt 120
gcaataaact gaacactgtc cttttggata agcttcctca acatatttag aaagttcaac 180
atccaagaca ttgcggtact cctcaacata tatggatgca agttcatcat ctgcagctgg 240
tctcaccgct gtacaaactt gtttaacatg gttgacagtt gcaacttgag cagtccgtgg 300
atccaaataa tgagttccgt caagctcact gaactcagtc acaatcacct ggccactttg 360
attgggcatc tcgagggata tcatgtgaga cttgttgtgg atggggaaag cgtccgc 417

<210> 311
<211> 308
<212> DNA
<213> Pinus taeda

<400> 311
gcggacgcct gcataaacat cgctaccctg gggatgatta ataatagtac cagggttagg 60
attttcttca tcttgagcga tatcatcata cataaagacc acaatgtttt cctctttcaa 120
accgcctttc ctcagaattt ggtaggcatg gcagatatca gcctgatgcc tgtagttcca 180
ataaccggaa gaaccagcca acagaatagc ccactgagta ccgatcgtat cactatcatc 240

aacgatatga tcggtgggca ttttcagtac tgaatcccaa ccccttctgg ccgtcgtttt 300
acaacgtc 308

<210> 312
<211> 183
<212> DNA
<213> Pinus taeda

<400> 312
gcggacgcct agactgggca taccaactac cttcctcatg ccaggccatg ggccacctac 60
ctggtactta ggcataacac cttacttacg agcatgccag gctcagtcag ataggcatgc 120
atcccaccca cctagctatg acccaatcct tataaacact agatattctc cctggccgtc 180
gtt 183

<210> 313
<211> 255
<212> DNA
<213> Pinus taeda

<400> 313
gcggacgcct agacaatcat taactgaaga tctgtaagcc atgacaagac gaataaaacg 60
aagcacggcg caaccagcgt gaatattgac gccttaattt cattcaactg ggttgcggat 120
tctttattcc tcaacaagtg ttcgatagct tcacatacgc aaggcccctt ttactctcac 180
cttcatggtt taatgctgta accgtcgaag gttgatgaaa ggacttggat gatgatgttg 240
ccaaaaaaaa aaaaa 255

<210> 314
<211> 184
<212> DNA
<213> Pinus taeda

<400> 314
gcggacgcct gctcaacacc tgttatagtc atttcttgtt tccttttctc aattttctct 60
ttcgaatgac cgcattgaaa ttcaggctgc ccaacgcgtt tttgttttca caattaattt 120
ttgaatcata cgcgaagatc atgatgagaa tggttgtgga aaaaaactgt ttgtaaatat 180
ttag 184

<210> 315
<211> 345
<212> DNA
<213> Pinus taeda

<400> 315
atatcacatt accattcaaa aaataaacat tttacaaaat acaattccat aacaattttc 60
ttccctgttc caacctccac aaaagtaaat gatcgtataa gaaattaact accaacaaaa 120
atcccaaagt taaaggaaga catccccaaa aaagatgtaa ctttcaaaac cggatgactt 180
cactcctgcc attgcaccta gtcatttact tctcagagga gtttggccct ttcttctttc 240
caaaagtaac cactgcggta acaaaccggc ggttgtattg cattcgcttg taggcgcggc 300
ctctaggctt cttcttctgt cttgtttggc caccttaggg tccgc 345

<210> 316
<211> 292
<212> DNA

<213> Pinus taeda

<400> 316
gcggacgcct tggtacaatg gacttgcaaa aataaaatga gttctcattt gtgggtgaga 60
tgcggatatt ttatgcatag gcacttcatg gagatgtggt ttataaacgc catcttaata 120
tctgtaccta ttactttcaa aatatgaagg caagatggaa agctactcat ctgttgtgaa 180
gtcagaatgt tggtagcggt tgggctctga aagtaagaaa ctttttgatt ggtttaatta 240
aatgagggaa tttgcctggt ttccctcttc cttccgaaaa aaaaaaaaaa aa 292

<210> 317
<211> 298
<212> DNA
<213> Pinus taeda

<400> 317
gacgttgtaa aacgacggcc agacaatatt ggaagggaga aaggcgccag cagggttgag 60
gggaagaaat gcataatgac atatataatg agatctattt gtatacgata ttacgggtac 120
gatcgatgat tcgagctacg atcccatacg acgctaaagc gtaattacat atataataga 180
tgcatttcag aatgacttat ctatttcatt acgcgatatt atatacgtaa ttacgtatat 240
aattgcagag atctcaccga ccaaccaaat agtctttcat ttcatcccag gcgtccgc 298

<210> 318
<211> 337
<212> DNA
<213> Pinus taeda

<400> 318
gcggacgcct gtatcactag aggtgaatac tcagcaagca aaactgaagg atattattga 60
aaaagctgtc aaggctaaat tgggtgtcaa ttccccattg atcatgcatg gttctacact 120
tttgtttgag tccggtgatg acattgagga agatgttgct gcacattatg cacaaaactt 180
agagaagacg ttagcagaat ttccagttcc aatcacaaat ggtgttattc ttacagtaga 240
ggactaccag caagagttct tatgcagtat taatattaag cacagagatg actttgatga 300
ggagtcaggt ggcattgtac tgtctggagg cgtccgc 337

<210> 319
<211> 237
<212> DNA
<213> Pinus taeda

<400> 319
gcggacgcct ccttgtagat accatacatg agtctaagat caaaatcata caagaagagc 60
ttcattccgg gcctcacctt ttctacaagc tcctttttgg ctggtggaaa gccaaacact 120
ctgtatcgga aacactcctg cctagtttca gaattacaca taaaaatcaa gccggcaaac 180
ctatctttgc cactgccatc ttcattgttt gcgtcctggc cgtcgtttta caacgtc 237

<210> 320
<211> 484
<212> DNA
<213> Pinus taeda

<400> 320
gcggacgcct tactaaaacg acggccagat gtgtaatggg gaaaatgtgt catgatagtt 60
gggtacaaat aacgagccac ctgctctatg ttttcgaagt tttctgttgg atttgtccgg 120
gtgagagagc gttcgttcgt tgcgcgagag gggcaaaatg ctgagcgtgg ggaattgcca 180

ttgccgcccc tggaagtgcc gcacgaacgc gatcacattt aaatcaccat ttacttcatc 240
atcaccatgg ttaaatgcag tccctgctcc ttcaaacagg aacttcagat ccttcaagct 300
cgaaatctcc gcctctgctt cctcgaagac aagactctgt gaggaggaag cgcagcagct 360
gagcttagcg gatctgctga agcccggtgg cctcgccccc gatgggttct cgtacaagga 420
gaactttacc atacgctgct atgaagtccg agttaaaccg cactgccacc attgaggcgt 480
ccgc 484

<210> 321
<211> 248
<212> DNA
<213> Pinus taeda

<400> 321
gacgttgtaa aacgacggcc agcaaccaaa taaaccccac atgtgctcaa tgttttagta 60
taaaaggaga tgacttaaga gtcatttcac acacacttct atcttgattt ctctccactt 120
gtcttgggtt ttagtggaag agaaatctag gagtggaagc cctagacgtt ggaggataag 180
aaggcaaccc tagaaggcag agctaacgct atcctaaggc aaccctaacg ctatcctaag 240
gcgtccgc 248

<210> 322
<211> 401
<212> DNA
<213> Pinus taeda

<400> 322
gcggacgcct gctcagcacc tgttatagtc atttcttttt tccttttttct cattttttctc 60
tttcgaatga ccgcaatgaa attcaggctg cccaacgcgt ttttgttttc acaattaatt 120
tttgaatcat acgcgaagat catgatgaga atggttgtgg aaaaaaactg tttgtaaata 180
tttaggtgac caacaatttt catgattgca atctaaagtt gataattgat ttatcgggtc 240
gacatttgta attattaaca cggaaaatct gaggcttaca atttttggat tgtaaatatt 300
taggtgacga acaattttca tgattgcaat ctaaagttga caattgagtt atcgtgtcga 360
catttgtaat tattaacaca caaaatctat gaggcgtccg c 401

<210> 323
<211> 493
<212> DNA
<213> Pinus taeda

<400> 323
gcggacgcct catcaatcca tggttgtaca cgcgccttca aagcggcttc cttatgtcgc 60
gcagcgtcta cttgttcctt gagcgctttt ccctgctaca tccgcgcgag cctctgtgca 120
agggccactg tctgcgcggt ccctttaact tcgtcgtact tctgctgcag ctcacgtgtc 180
tctatttcta agtgctatat atttgggtcc tcctgcatag tagtgaactt cgaacgactc 240
ctcaaatagc caggtgtagt ctttcattgc actattgatc tccactattc ctgctataat 300
ggcgctaaca tgctgttcct tcacctttgg cggagttgaa ggctgcgcct tcttggagct 360
cggttatttg aagctgaacc ttgggcatat cttccttcac ctcgtgcatc ccctgcttcg 420
agtttctgga tgcacgcctc cactgggtct tctgctggga tgggcaactc taagaccaac 480
tggtatgcgt cgc 493

<210> 324
<211> 143
<212> DNA
<213> Pinus taeda

<400> 324
gcggacgcct tcttcaatcc atcaggcctg attaatgtat tgaccttctt tgtctgaatg 60
tcatacattt ttttcactgc atccttgatc ttcttcttgt cttgctttct atcctttctc 120
ttgctttcta tcctttctct ggc 143

<210> 325
<211> 314
<212> DNA
<213> Pinus taeda

<400> 325
gacgttgtaa aacgacggcc agcaaaattg atataaagaa tagacacatc gactcaaatg 60
aagtgactca acagttcatt aattcatgtc agcttgaatg catggacata cacccataaa 120
taggcagttg gggtcaccca aaagaacata gaaacatctc gcatctctct gaagaaactc 180
ggatgggtac aggtctgtga cttcgcatat tttgaaggag cactctcttg gataagtaca 240
atataggtac catctcggac tcgcctgaaa tctcgcaaag aagtctcatt ctcctccttg 300
ttacaggcgt ccgc 314

<210> 326
<211> 332
<212> DNA
<213> Pinus taeda

<400> 326
gacgttgtaa aacgacggcc agaagcatca ataaacaaaa tgacagatta acaagttctc 60
tcttaatctt aagagaatac atcaacatcc aagtaaagtc ataacacatt tacaaaatgg 120
tgccacggta tccattctct gtaacaaggt ttttctgaaa atagttttcc tcttatctat 180
gtaactcttc atagggatgc ctgtgtcaac gtgccatatt cccaaatttg gccacaatca 240
aaccttcctc attagaagaa acaatctctg gtctagctca aaattggcaa aatttccagc 300
atctcccttt aacatcatta gaaggcgtcc gc 332

<210> 327
<211> 1098
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (879)
<223> a, t, c, g, other or unknown

<400> 327
gggagatgct aatttgaagc ccttctctga aggtggacaa ttccagcagc agtggtctaa 60
agccccaata tggctataga aattcttctg ggggttgcac ctatggaaga gggtcggaga 120
ggacgaagct gtggatcgct cttaccatct gtgcggaagg tggtagcaga attcattgga 180
acgttcttcc tcatatttgt aggatgcgga tctgtcgttg ttgataagat aagcaacggt 240
tccataactc atcttggtgt gtcgcttgta tggggaatgg cggccatgat tgtaatttat 300
tccataggcc atatttctgg agctcatttg aatcctgcag tgacgttggc ccttgcggct 360
gtgaagagat ttccatgggt tcaggttcca ggctacatag tagctcaagt atttggatcg 420
atatctgctg ggtttctcct acgtttcatg tttggagaag tggcattcat gggagccaca 480
gttccttcag gctcagaaat gcagtctttc gctttggaaa ttattactac gtcattgttg 540
gtgtttgtgg tttctgcagt cgccactgat acaaaagcgg tgggtgaatt gggaggttca 600
gcaattggag cgaccatcgc aatgaatgta gccatatccg gaccaatctc aggagcttca 660
atgaatccag caaggacaat aggatccgca gtggctggca acaaatatac aagcatttgg 720
gtttacatgg ttgggcctgt aatcggtgcg ctaatgggtg caatgagtta taacatgatt 780

agagagacaa aaatgtccga aagggagatt atgaagagtg ggtcatttgt taaggacatg 840
ggctccagcg aatcaacagc ataacaactt agagatttnt tgcattcccg agacggtatc 900
cagtgatagt ggagagtagt cataataaga tttgtgaaaa tgtttgtgta gattaatgtg 960
taaaattcaa tccatcaacc atgaagcgaa ctgcattccg tttttaaatg tttattggat 1020
ttgaattaat aaacagctta tacgtgaaaa tccctacttt atgtacggaa aaaaaaaaaa 1080
aaaaaaaaaa aaaaaaaa 1098

<210> 328
<211> 992
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (762)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (774)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (778)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (808)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (828)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (849)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (881)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (898)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (936)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (945)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (953)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (967)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (977)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (984)..(985)
<223> a, t, c, g, other or unknown

<400> 328
actatagggc acgcgtggtc gacggcccga gctggtatcc gatgaagcta gattcaatgg 60
ttcaagtcct atgaaagcta gattggagaa ttgcaaagaa atctaatctc cgttagttgt 120
cccaaccact gactcgcacc caatcagagt atattaaagt taaagattat ataaaggtaa 180
attgaacatt tataaaatct taaatgtatt tttagagtta aacattatat agaatattta 240
atgtagtata gatataataa aatattaaaa attaatttct ctttactatc aagtgaataa 300
aaataaaaaa taaatgtaag acaatataat aaaagacttg ttttttagtgc atttttttgga 360
ctcttcgtta ttgtgtggta ttgtgttatt taaactgatc ttttttactgt atatatggat 420
gggttaccca tcaaacttgt gatttcaata aattcctccc ggattttaga gaaattagac 480
cataaaaact cacgaaaaaa attttagacc ataaaaactc acgaaaaaaa cttccccaaa 540
atcacgctaa aaacaactag ataaaaaaat acccatcttt gatgatgtgg atagtgacag 600
cctattccaa actatcacct aaattgtaag ttacatgcat aacacgatga cctcatctat 660
acgttgtgcc aaataaaggt atgaccgttc aaactaaaga atcaacgagc tccaacgcat 720
cttttgctgt ggggggattc tcacggctta acattcatgg anccgattac cttnctancc 780
aaccaagggt tttaacctgg aacaaatncc aaaccaatta ccagcttnac aaatcaaccg 840
agccgcccna ccgggatcat tttggtcaag tctcgaaaac nggcattggg tatatggnat 900
atggaattgg aattggatca atggtaacct tgggganaagc ttaanttgga aanccctttt 960
ttttganggg ggccaanttc ccgnnccccc gg 992

<210> 329
<211> 996
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (933)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (952)

<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (982)
<223> a, t, c, g, other or unknown

<400> 329
atactcaagc tatgcatcca acgcgttggg agctctccct atggtcgacc tgcaggcggc 60
cgcgaattca ctagtgatta gatggtaaga gcgatccaca gcttcgtcct ctccgaccct 120
cttccatagg tgcaaccccc agaagaattt ctatagccat attgaggctt tagaccactg 180
gtgctggaat tgtccacctt cagagaaggg cttcaaatta gcatctccaa gttacattga 240
tctattctat tcatatacat ataacaatgc tgcttcgaga ctgacaaaat gatccgttgg 300
cgctcgttga ttgttagctg taattgtttg gattgttcag ttaaagcctt gttggtagga 360
ggtaatcggt catgaatgtt agccgtgaga atcctcacag caaaagatgc gttggagctc 420
gttgattctt tagtttgaac ggtcatacct ttatttggca caacgtatag atgaggtcat 480
cgtgttatgc atgtaactta caatttaggt gatagtttgg aataggctgt cactatccac 540
atcatcaaag atgggtattt tttatctagt tgtttttagc gtgattttgg ggaagttttt 600
ttcgtgagtt tttatggtct aaaatttttt tcgtgagttt ttatggtcta atttctctaa 660
aatccgggag gaatttattg aaatcacaag tttgatgggt aacccatcca tatatacagt 720
aaaaagatca gtttaccagc ccgggccgtc gaccacgcgt gccctatagt aatcgaattc 780
ccgcggccgc catggcggcc gggagcatgc gacgtcgggc ccaattcgcc ctatagtgag 840
tcgtattaca attcactggc cgcgtttaca cgtcgtgact gggaaaccct gcgttaccac 900
ttaatcgctt gagcacatcc ccttttccag tgngtaaaac gaaaaggccc cnccatcgcc 960
tttcaaaaat tggcaactga angggaagga ccccct 996

<210> 330
<211> 1041
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (918)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (934)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (943)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (991)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (1009)
<223> a, t, c, g, other or unknown

<220>

<221> modified_base
<222> (1025)..(1026)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (1030)
<223> a, t, c, g, other or unknown

<400> 330
atactcaagc tatgcatcca acgcgttggg agctctccca tatggtcgac ctgcaggcgg 60
ccgcgaattc actagtgatt agatggtaag agcgatccac agcttcgtcc cctccgaccc 120
tcttccatag gtataaaacc cagaatttgg tgagcaggaa gaatttccat agccatattg 180
aggctttaca ccactgctgc tcgaattgtc caccttcaga gaagggcttc aaattagcat 240
ctccaagtta catggatcta ttctattcat atatttataa caatgctgct tcgagactga 300
caaaattatt tgttggcgct tgttcatcgt tagctgtaat ggtttggatt gttcagtgta 360
ggaccagccc gggccgtcga ccacgcgtgc cctatagtaa tcgaattccc gcggccgcca 420
tggcggccgg gagcatgcga cgtcgggccc aattcgccct atagtgagtc gtattacaat 480
tcactggccg tcgttttaca acgtcgtgac tgggaaaacc ctggcgttac ccaacttaat 540
cgccttgcag cacatccccc tttcgccagc tggcgtaata gcgaagaggc ccgcaccgat 600
cgcccttccc aacagttgcg cagcctgaat ggcgaatgga cgcgccctgt agcggcgcat 660
taagcgcggc gggtgtggtg gttacgcgca gcgtgaccgc tacacttgcc agcgccctag 720
cgcccgctcc tttcgctttc ttccttcctt tctcgccacg ttcgccggct ttccccgtca 780
agctctaaat cgggggcttc ctttagggtt ccgatttaat gctttacggc accctcgacc 840
ccaaaaaaac ttgattaggg gtgatgggtc acgtagtggg ccatcgccct tgatagacgg 900
tttttcgccc tttgacgntg gaagtccacg tttntttaat agngggactc ttggttcaaa 960
atgggacaac acttcaaacc ttttttgggg ntatttttt tgatttatna agggattttt 1020
gccgnntttn gggccttttg g 1041

<210> 331
<211> 993
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (939)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (952)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (965)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (973)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (993)

<223> a, t, c, g, other or unknown

<400> 331
atactcaagc tatgcatcca acgcgttggg agctctccct atggtcgacc tgcaggcggc 60
cgcgaattca ctagtgatta ctatagggca cgcgtggtcg acggccccgg ctggtttcaa 120
taaattcctc ccggatttta gagaaattag accataaaaa ctcacgaaaa aaattttaga 180
ccataaaaac tcacgaaaaa aacttcccca aaatcacgct aaaaacaact agataaaaaa 240
atacccatct ttgatgatgt ggatagtgac agcctattcc aaactatcac ctaaattgta 300
agttacatgc ataacacgat gacctcatct atacgttgtg ccaaataaag gtatgaccgt 360
tcaaactaaa gaatcaacga gctccaacgc atcttttgct gtgaggattc tcacggctaa 420
cattcatgac cgattacctc ctaccaacaa ggctttaact gaacaatcca aacaattaca 480
gctaacaatc aacgagcgcc aacggatcat tttgtcagtc tcgaagcagc attgttatat 540
gtatatgaat agaatagatc aatgtaactt ggagatgcta atttgaagcc cttctctgaa 600
ggtggacaat tccagcacca gtggtctaaa gcctcaatat ggctatagaa attcttctgg 660
gggttgcacc tatggaagag ggtcggagag gacgaagctg tggatgctct taccatctaa 720
tcgaattccc gcggccgcca tggcggccgg gagcatgcga cgtcgggccc aattcgccct 780
atagtgagtc gtattacaat tcactggccg tcgttttaca acgtcgtgac tgggaaaacc 840
ctggcgtacc caacttaatc gccttgcagc acatcccctt tcgcagctgg gtaatagcga 900
aaaggccgca cgatgccttc cacagtgcca actgatggng aaggaccccc tntcgggcat 960
taacncgggg ggnggggttc cccccggcct ccn 993

<210> 332
<211> 1014
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (994)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (998)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (1014)
<223> a, t, c, g, other or unknown

<400> 332
atactcaagc tatgcatcca acgcgttggg agctctccca tatggtcgac ctgcaggcgg 60
ccgcgaattc actagtgatt agatggtaag agcgatccac agcttcgtcc tctccgaccc 120
tcttccatag gtgcaacccc cagaagaatt tctatagcca tattgaggct ttagaccact 180
ggtgctggaa ttgtccacct tcagagaagg gcttcaaatt agcatctcca agttacattg 240
atctattcta ttcatataca tataacaatg ctgcttcgag actgacaaaa tgatccgttg 300
gcgctcgttg attgttagct gtaattgttt ggattgttca gttaaggcct tgttggtagg 360
aggtaatcgg tcatgaatgt tagccgtgag aatcctcaca gcaaaagatg cgtcggagct 420
cgttgattct ttagtttgaa cggtcatacc tttatttggc acaacgtata gatgaggtca 480
tcgtgttatg catgtaactt acaatttagg tgatagtttg gaataggctg tcactatcca 540
catcatcaaa gatgggtatt tttttatcta gttgttttta gcgtgatttt ggggaagttt 600
ttttcgtgag tttttatggt ctaaaatttt tttcgtgagt ttttatggtc taatttctct 660
aaaatccggg aggaatttat tgaaatcaca agtttgatgg gtaacccatc catatataca 720
gtaaaaagat cagtttaaat aacacaatac cacacaataa cgaagagtcc aaaaaatgca 780
ctaaaaacaa gtcttttatt atattggctt acatttattt tttacttta ttcacttgga 840
tagtaaaaga gaaattaatt tttaatattt tattatatct atactacatt aaatattcta 900

tataatgtta actctaaaaa acatttaaga tttatatatg gtcaattacc cttatataat 960
ctttaacttt aaatccctga tgggggccaa taanggtngg gaaactaacg gaan 1014

<210> 333
<211> 640
<212> DNA
<213> Pinus taeda

<400> 333
actatagggc acgcgtggtc gacggcccgg gctggtttca ataaattcct cccggatttt 60
agagaaatta gaccataaaa actcacgaaa aaaattttag accataaaaa ctcacgaaaa 120
aaacttcccc aaaatcacgc taaaaacaac tagataaaaa aatacccatc tttgatgatg 180
tggatagtga cagcctattc caaactatca cctaaattgt aagttacatg cataacacga 240
tgacctcatc tatacgttgt gccaaataaa ggtatgaccg ttcaaactaa agaatcaacg 300
agctccaacg catcttttgc tgtgaggatt ctcacggcta acattcatga ccgattacct 360
cctaccaaca aggctttaac tgaacaatcc aaacaattac agctaacaat caacgggcgc 420
caacggatca ttttgtcagc ctcgaagcag cattgttata tgtatatgaa tagaatagat 480
caatgtaact tggagatgct aatttgaagc ccttctctga aggtggacaa ttccagcacc 540
agtggtctaa agcctcaata tggctataga aattcttctg ggggttgcac ctatggaaga 600
gggtcggaga ggacgaagct gtggatcgct cttaccatct 640

<210> 334
<211> 1028
<212> DNA
<213> Pinus taeda

<220>
<221> modified_base
<222> (953)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (973)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (981)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (1002)
<223> a, t, c, g, other or unknown

<220>
<221> modified_base
<222> (1004)
<223> a, t, c, g, other or unknown

<400> 334
atactcaagc tatgcatcca acgcgttggg agctctccct atggtcgacc tgcaggcggc 60
cgcgaattca ctagtgatta gatggtaaga gcgatccaca gcttcgtcct ctccgaccct 120
cttccatagg tgcaaccccc agaagaattt ctatagccat attgaggctt tagaccactg 180
gtgctggaat tgtccacctt cagagaaggg cttcaaatta gcatctccaa gttacattga 240

tctattctat tcatatacat ataacaatgc tgcttcgaga ctgacaaaat gatccgttgg 300
cgctcgttga ttgttagctg taattgtttg gattgttcag ttaaggcctt gttggtagga 360
ggtaatcggt catgaatgtt agccgtgaga atcctcacag caaaagatgc gttggagctc 420
gttgactctt tagtttgaac ggtcatacct ttatttggca caacgtatag atgaggtcat 480
cgtgttatgc atgtaactta cagtttaggt gatagtttgg aataggctgt cactatccac 540
atcatcaaag atgggtattt ttttatctag ttgtttttag cgtgattttg gggaagtttt 600
tttcgtgagt ttttatggtc taaaattttt ttcgtgagtt tttatggtct aatttctcta 660
aaatccgaga ggaatttatt gaaaccagcc cgggccgtcg accacgcgtg ccctatagta 720
atcgaattcc cgcggccgcc atggcggccg ggagcatgcg acgtcgggcc caattcgccc 780
tatagtgagt cgtattacaa ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac 840
cctgcgtacc cacttaatcg ccttggagca catccccctt tcgccagctg gcgtaatagc 900
gaagaggccc ggacccgatc ggcccttcc aacaaattgc gcaaccctga atngggaaat 960
gggccccccc ctnttaccgg ngcaattaaa ccccgggggg gngngggggt tccccccccc 1020
gtggacct 1028

<210> 335
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 335
aagctttttt tttttg 16

<210> 336
<211> 13
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 336
aagcttgatt gcc 13

<210> 337
<211> 13
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 337
aagcttcgac tgt 13

<210> 338
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 338
ctcttaatta agtacgcggg 20

<210> 339
<211> 507
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Clone LPS-097

<400> 339
gggcacaaag ctccgcagcc tgagcgagcg tcattagctt gtcagtcgga accattaccc 60
ctttcctctt cgctggctag cgaatgatag ggaatgctag ccagcgaaca agattagagc 120
acagaaagta tagccagcga atcaacagca taacaactta gagatttctt gcattcccca 180
gacggtatca agtcatagtg gagaataatc ataataagat ttgtgaaaat gtttgtgtag 240
attaatgtgt aaaattcaat ccatcaacca tgaagtgaag tgcattccgt ttttaaatgt 300
ttattgtatt tgaatgaata aacagtttac acgcgaaaat ccctacttta tgtgcgtaca 360
aactatgatt tttttgcagt atataaaagt ttccactatc gtaattattt tccagatccg 420
tcttcttaac aacccgattt cctagcatcc atctgcgtgg aataaatcta ttgaattatt 480
aacccttgtg attggctaaa aaaaaaa 507